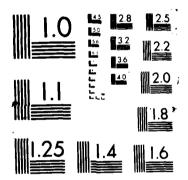
ANNUAL DATA SUMMARY AND CLIMATOLOGICAL EVALUATION CERC (COASTAL ENGINEERI. (U) COASTAL ENGINEERING RESEARCH CENTER VICKSBURG MS H C HILLER ET AL. SEP 87 CERC-87-13-VOL-2-APP-C NO-8185 894 1/2 UNCLASSIFIED NL el.fl... aik. aull. .Hils







# ANNUAL DATA SUMMARY AND CLIMATOLOGICAL EVALUATION CERC FIELD RESEARCH FACILITY, 1985

Volume II
APPENDIX C

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by

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#### APPENDIX C: WAVE DATA

1. Wave data summaries for 1985 and climatological summaries for 1980 through 1985 are presented in this appendix. An explanation of the summary formats is followed by the data for Gages 625, 630, 640, and 645. Wave data are summarized in the following forms:

#### Gage Histories

2. Table Cl includes information about the gages, gage installations, and major interruptions in the data collection. Short interruptions in the operational status of the gage are not mentioned.

## Time-Histories

3. A continuous display of individual wave height and peak spectral wave period values are plotted as a function of the time throughout the year (Figures C1, C21, C34, and C41). Gaps indicate breaks in the data longer than 24 hr.

# Annual; Seasonal; and Monthly Maxima, Mean, and Standard Deviations of Wave Height and Peak Period

4. Mean 1985 wave height and standard deviation, mean peak wave period and standard deviation, and extreme wave heights are listed in Tables C2, C12, C22, and C27 and plotted in Figures C2, C22, C35, and C42. Combined statistics for 1980 through 1985 are given in Tables C7, C17, and C32 and plotted in Figures C11, C28, and C47. Also included in the tables is the total number of observations obtained; at four observations per day, the maximum number of observations per month (based on a 30-day period) is 120. In the figures, the standard deviations are presented as vertical bars originating at the mean value and extending to the mean plus one standard deviation value. The extreme values are plotted above. No extreme period values are presented.

#### Distributions of Wave Height Versus Peak Period

5. Annual, seasonal, and monthly joint distribution tables are presented for 1985 in Tables C3-5, C13-15, C23-25, and C28-30; data for 1980 through 1985 are in Tables C8-10, C18-20, and C33-35. Each table gives the frequency (in parts per 10,000) for which the wave height and peak period were within the specified intervals; these values can be converted to percent by dividing by 100. Marginal totals are also included. The row total gives the total number of observations out of 10,000 which fell within each specified peak period interval. The column total gives the number of observations out of 10,000 which fell within each specified wave height interval.

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#### Cumulative Distributions of Wave Height

6. For each gage, annual, seasonal, and monthly wave height distributions of 1985 are plotted in cumulative form in Figures C3-5, C23-25, C36-38, and C43-45. Data for 1980 through 1985 are in Figures C12-14, C29-31, and C49-51.

#### Peak Spectral Wave Period Distributions

7. Annual, seasonal, and monthly peak wave period T distribution histograms for 1985 are presented in Figures C6-8, C26-27, C39-40, and C46-47; data for 1980 through 1985 are in Figures C15-17, C32-33, C52, and C53.

#### Persistence of Wave Heights

8. Tables C6, C16, and C26 show the number of times throughout 1985 when the specified wave height was equaled or exceeded at least once during each day for the duration (consecutive days) indicated; data for 1980 through 1985 are in Tables C11, C21, C31 and C36. For example, Table C6 for Gage 625 (located at the seaward end of the FRF pier) indicates wave heights equaled or exceeded 1.0 m 44 times for at least 1 day; 33 times for at least 2 days; 22 times for at least 3 days; 14 times for at least 4 days, etc. Therefore, on 11 occasions, the height equaled or exceeded 1.0 m for 1 day exactly (44 - 33 = 11); on 11 occasions for 2 days; on 8 occasions 3 days, etc. Note

that the height exceeded 1 m 44 times for 1 day or longer, while heights exceeded 0.5 m only 36 times for this same duration. This change in durations occurred because the longer durations of lower waves may be interspersed with shorter, but more frequent, intervals of higher waves. For example, 1 of the times that the wave heights exceeded 0.5 m for 19 days may have represented 3 times the height exceeded 1 m for shorter durations.

#### / Wave Roses 1

9. Wave roses showing the distribution of wave height (from Gage 625) versus visually observed approach angle at the seaward end of the FRF pier are presented. Data for 1985 are in Figures C9-10, while 1980 through 1985 data are in Figures C18-19. The angles are referenced to true north. Northerly wave angles, e.g. less than 70 deg, generally produce southward currents, while southerly wave angles greater than 70 deg produce northward currents.

#### Spectra 🗸 🗕

10. Spectra for the pier end gage (Gage 625) for days when wave heights exceeded 2 m are presented in Figure C20. The plots show energy density as a function of wave frequency.

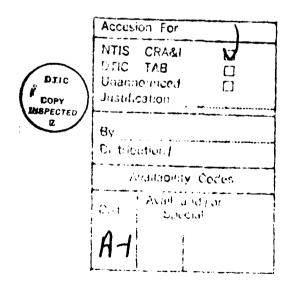
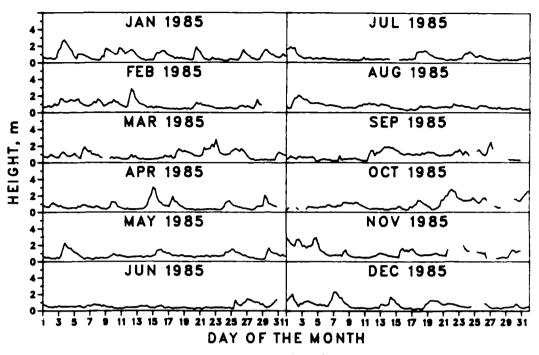
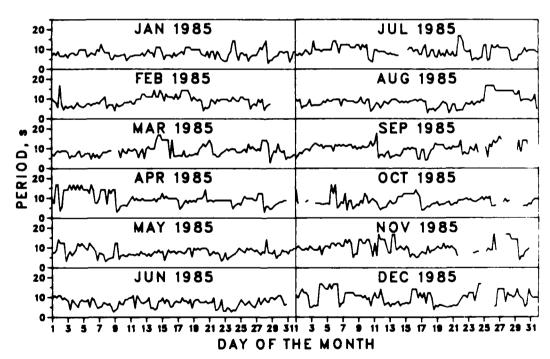


Table Cl Wave Gage Histories for 1985

Distance from Shore	475 m	5.9 km	0.9 km	100 m
Depth	8.2	18	6	2.1
Range	-6.3 to 7.0	Continuous	Continuous	-1.5 to 7.0 -2.5 to 7.0
Explanation	e 625)	630) Removed by trawler	Telemetry failure	Gage 615 buried in sand
End of Proper Operation	ind Staff (Gage 625)	Offshore Buoy (Gage 630) 17 Dec 85 Rem ec 85	Nearshore Buoy (Gage 640) 25 Sep 85 Tele fa	Oct 84 Gage bu
Beginning of Proper Operation	Pier-End Nov 78	Offsho Nov 78 After 31 Dec 85	Nearsh Oct 84 1 Oct 85	Nov 78 Terminated Nov 84
Location	Pier sta 19+00 (579 m ENE of baseline)	6 km ENE of baseline	l km ENE of baseline	Pier sta 6+20 (189 m ENE of baseline) Pier sta 7+80 (238 m ENE of baseline)
Type of Gage	Continuous wire	Accelerometer buoy	Accelerometer buoy	Continuous wire



a. Wave height



b. Wave period

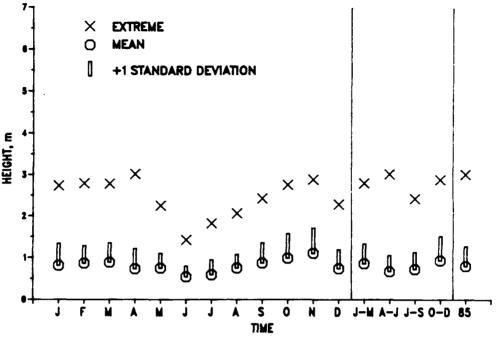
Figure C1. Time-history of  $H_{mo}$  and  $T_{p}$  for Gage 625

Table C2

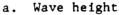
1985 Mean, Standard Deviation, and Extreme H and T for Gage 625

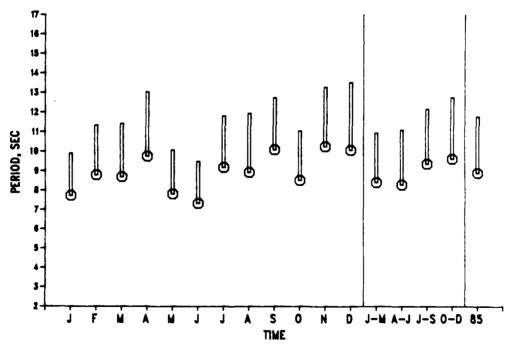
MONTH	MEAN HEIGHT (M)	STD.DEV. HEIGHT (M)	MEAN PERIOD (SEC)	STD.DEV. PERIOD (SEC)	EXT. HEIGHT (M)	DATE	NUMBER OBS.	
JAN	0.8	0.5	7.7	2.2	2.7	3	119	
FEB	0.9	0.9 0.4		2.6	2.8	12	110	
MAR	0.9 0.5		8.6	2.7	2.8	23	121	
APR	0.7	0.5	9.7	3.3	3.0	15	117	
MAY	0.7	0.4	7.7	2.3	2.3	3	123	
JUN	0.5	0.3	7.2	2.2	1.4	27	115	
332	0.6	0.4	9.1	2.6	1.8	1	120	
AUG	0.7	0.3	8.8	3.0	2.1	2	122	
CEP	0.9	0.5	10.0	2.7	2.4	27	110	
0 <b>0</b> T	1.0	0.6	8.4	2.5	2.8	22	105	
NOA	1.1	0.6	10.2	3.1	2.9	4	106	
DEC	0.7	0.5	10.0	3.5	2.3	7	112	
IAN MAR	0.8	0.5	8.3	2.5	2.8	FEB	350	
APP JUN	3.7	0.4	8.2	2.8	3.0	APR	355	
MIL-SEP	EP 0.7 0.4		9.3	2.8	2.4	SEP	352	
DOT-DEC	0.9	0.6	9.5	3.2	2.9	NOV	323	
AMNOAL	0.8	0.5	8.8	2.9	3.0	APR	1380	

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b. Wave period

Figure C2. 1985 mean, standard deviation, and extreme H and T for Gage 625

Table C3

1985 Annual Joint Distribution of H versus T for Gage 625

			Pi	ERCENT	OCCUR	RENCE (	ANNUA	_	GHT AN	D PERIO	00		
HEIGHT (METERS)	PERIOD (SECONDS)												TOTAL
	1 0- 2.9	3. 0- 3. 9	4 0- 4. 9	5. 0- 5. 9	6. 0- 6. 9	7 0- 7 9	8. 0- 8. 9	9 0- 9 9	10 0- 11 9	•	14 0- 9 15 9	16 0- LONGER	
0 00 - 0 49	58	65	116	109	196	275	790	514	457	341	391	7	3319
0 50 - 0 99	22	138	181	413	377	391	964	609	341	297	333		4066
1 00 - 1 49		7	101	355	384	130	275	203	145		101		1701
1 50 - 1 99				116	203	80	94	72	43	14	43		665
2 00 - 2 49				7	14	36		29	14	7	14		121
2 50 - 2 99							29	65	14		7		115
3 00 - 3 49											7		7
3 <b>5</b> 0 - 3 99													0
4 00 - 4 49													0
4 50 - 4 99						,							0
5 00 - GREATER			,										0
TOTAL	80	210	398	1000	1174	912	2152	1492	1014	659	896	7	

Table C4

1985 Seasonal Joint Distribution of H versus T for Gage 625

	SEASONAL JAN-MAR PERCENT DCCURRENCE(X100) OF HEIGHT AND PERIOD										
HEIGHT (METERS)	PER IOD (SECONDS)	TOTAL									
	1 0 3 0- 4 0- 5 0- 6 0- 7 0- 8 0- 9 0- 10 0- 12 0- 14 0- 16 0- 2 9 3 9 4 9 5 9 6 9 7 9 8 9 9 9 11 9 13 9 15 9 LONGER										
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99	57	2829 4030 2058 886 58 144									
3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER TOTAL	57 <b>143 457 1144 1686 857 2487 1429</b> 715 543 487 <sup>0</sup>	0									

(Continued)

## Table C4 (Concluded)

	SEASONAL	APR-	-JUN		
PERCENT	DCCURRENCE (X100)	OF	HEIGHT	AND	PERION

HEIGHT (METERS)	PERIOD (SECONDS)											TOTAL	
	1 U- 2 9	3 0- 3 9	4 0- 4 9	5 0- 5 9	6 C- 6 9	7 0- 7 9	8 0- 8 9	90-	10 0- 11 9		14 0- 9 15 9		
0 00 - 0 49	169	197	197	85	394	423	1380	423	225	225	292		4000
0 50 - 0 99	28	254	225	650	535	366	1127	620	85	310	225		4395
1 00 - 1 49			85	141	282	141	310	197	28		28		1212
1 50 - 1 99				85	28		28	28	56		28		253
2 00 - 2 49				28		28		28					84
2 50 - 2 99								28					58
3 00 - 3 49											28		58
3 50 - 3 99													0
4 00 - 4 49													0
4 50 - 4 99													0
5 00 - GREATER													0
TOTAL	197	451	507	959	1239	958	2945	1324	394	535	591	0	

#### SEASONAL JUL-SEP PERCENT DCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)		PERIOD (SECONDS)											
	1 U- 2.9		4. 0- 4. 9	5. 0- 5. 9							14 0 <del>-</del> 7 15.9		• •
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GPEATER	<b>37</b>	114	114 199 170	114 256 199 28	170 199 170 313	227 341 170 114 28	710 909 199 57	597 909 199 28	966 511 284 28	341 284 57	455 284 142 28	28	3722 4063 1533 625 56 0
TOTAL	57	114	483	597	952	880	1875	1733	1789	682	909	28	•

# SEASONAL OCT-DEC PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)	PERIOD (SECONDS)	TOTAL
	1 U- 3 O- 4 O- 5.0- 6 O- 7.0- 8.0- 9 O- 10 O- 12 O- 14 O- 16.0- 2 9 3.9 4.9 5.9 6.9 7 9 8 9 9.9 11 9 13 9 15 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER	31 31 217 62 279 279 433 341 402 588 62 62 433 310 372 495 341 495 464 712 31 31 557 341 155 310 279 124 217 124 155 93 217 124 93 124 31 62 93 62 31 31 31 217 62	2663 3746 2045 930 310 310 0 0
TOTAL	0 124 124 1331 899 961 1332 1487 1177 897 1672 0	

Table C5 1985 Monthly Joint Distribution of  $\frac{H}{mo}$  Versus  $\frac{T}{p}$  for Gage 625

			PE	RCENT	OCCUR	RENCE	100)	WF HEIG	HT AND	PERIO	D		
HEIGHT (METERS)						PERIC	D(SEC	NDS)					TOTAL
	1 0- 2.9		4 0 <del>-</del> 4. 9	5. 0- 5. 9	6 0- 6 9	7.0- 7.9	8. 9 8. 9	9 0- 9.9	10 0- 11 9		14 0- 1 15. 9	16 0- Longer	
0.00 - 0.49	84	84	336	84	336	504	1008	672	420	252	168		3948
0.50 - 0.99 1.00 - 1.49		168	336 168	252 420	336 1008	336	1092 336	252 84	168				2940 2016
1 50 - 1 99 2 00 - 2 49				84	504 84	168		84					840 84
2 50 - 2 99		•			0-		168						168
3.00 - 3.49 3.50 - 3.99													0
4 00 - 4 49													0
4 50 - 4 99													0
5.00 - GREATER TOTAL	84	252	B40	840	2268	1008	2604	1092	588	252	168	0	0
	•											•	
						MC	NTH FE	:B					
			۴	ERCENT	r occui	RRENCE	X100)	OF HE	CHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	(BONDS)					TOTAL
	1.0		4. 0 <del>-</del> 4. 4	5. 0- 5. 9	6.9	•					14 0- 9 15 9	16 0- 7 LONGER	
0.00 - 0.49 0.50 - 0.99		4.00		_:			364	727	364	364	273		2092
1 00 - 1 49		182	182 91	91 727	455 636	818 91	1182	909 91	636 273	182	182		4819 2182
1 50 - 1 99				273	273	91	2,3	• •	2/3		91		728
2.00 - 2 49 2.50 - 2 99		•						91					0
3.00 - 3 49			•				•	71			91		1 <b>82</b> C
3 50 - 3 99 4 00 - 4 49			*										0
4.50 - 4.99													0
5.00 - GREATER TOTAL				:									ŏ
TOTAL	0	182	273	1091	1364	1000	1819	1818	1273	546	<b>63</b> 7	0	
							1 HT/10	IAD					
				PERCEN	IT OCC				A THOL	ND PER	100		
HEIGHT (METERS)						PER	IOD (SE	CONDS	•				TOTA
	1 0-	- 3.0- .9 3.	-									- 16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99	9:	3.	165	661	80 1 579		826 1570						2398 4381
1 00 - 1 49			83						165		83		1985
1 50 - 1 99 2 00 - 2 49				331	16	5 83	246						1075
2.50 - 2.99						. 83	93 83	3					93 93
3 00 - 3 49													o
3 50 - 3 99 4 00 - 4 49													C
4 50 - 4 99													0
5 00 - GREATER													0

(Continued)

(Sheet 1 of 4)

# Table C5 (Continued)

			PE	RCENT	DCCURI	MOI RENCE ( )	NTH API X100) (	R DF HEI	OHT AND	PERI	00		
HEIGHT (METERS)							OD (SEC						TOTAL
	1. U- 2. 9	3. 0- 3. 9		5. 0- 5. 9	6. 0- 6. 9	7 0~ 7 9					14 0- 9 15 9	16 0- Longer	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49	171	171	256	256	85	342	2051 855	513 684	171 85	513 940	427 598		3846 4272
1.50 - 1 99 2.00 - 2 49	•	•	85	256 85 85	342 85	256	85	171 85 85	85				1195 340 170
2 50 - 2 99 3 00 - 3 49 3 50 - 3 99								85			85		85 85 0
4 00 - 4 49 4 50 - 4 99 5 00 - GREATER		. = .											0 0 0
TOTAL	171	171	341	682	512	598	2991	1623	341	1453	1110	0	
			ы	ERCENT	DCCUR		NTH MA X100)		CHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1 U- 2. 9			5. 0- 5. 9	6. 0- 6. 9						14 0- 9 15 9	16.0- LONGER	
0.00 - 0.49 0.50 - 0.99 1.00 - 1.49 1.50 - 1.99	81	163 407	163 81 81	81 894	569 1138 244	325 569 163	325 1626 650	163 650 244	91 91	163	407 81 81		2521 5446 1544
2 00 - 2 49 2 50 - 2 99 3 00 - 3 49	·	•		163		81	81		91		81		<b>406</b> <b>81</b> 0
3.50 - 3.99 4.00 - 4.49 4.50 - 4.99			· .				•	•					0 0 0
5.00 - GREATER TOTAL	81	570	325	1139	1951	1138	2682	1057	243	163	650	0	0
			P	ERCENT	OCCUR		NTH JU X100)		OHT AN	D PERI	OD.		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0 <del>-</del> 2. 9	3. 0- 3. 9		5. 0- 5. 9	6. 0- 6. 9		8.0 <del>-</del> 8.9				14 0÷ 9 15 9	16.0- LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99	261 87	435 174	435 348 87	174 696 174	609 348 261	957 174	1826 870 174	609 522 174	435 174				5741 3393 870 0
2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99													0 0
4 00 - 4 49 4 50 - 4 99 5 00 - GREATER		•	•					-					0
TOTAL	348	609	870	1044	1218	1131	2870	1305	609	0	0	0	

(Continued)

(Sheet 2 of 4)

## Table C5 (Continued)

					0001100		NTH JUL			2521			
HEIGHT (METERS)			PE	KCENI	UCCURR		DD(SEC		OHT AND	PERI	טנ		TOTAL
													·O·Ac
	2. 9	3. 0- 3. 9	4. 0- 4. 9	5. 0- 5. 9	6 0- 6. 9	7 0-	8.0- 8.9	9.0- 9.9	10 0-		14 0- 9 15.4		
0.00 - 0.49			333	167	417	583	1083	1000	1167	250	1000		6000
0 50 - 0 99 1 00 - 1 49		83	167 83	167 417	167 167	167	417	917 250	83	83	333 83		2584 1000
1.50 - 1.99					167	83	167						417
2.00 - 2.49 2.50 - 2.99													0
2.50 - 2.99 3.00 - 3.49													0
3 50 - 3 99													0
4 00 - 4 49 4 50 - 4 99		-											0
5.00 - GREATER	•												ŏ
TOTAL	0	83	583	751	918	833	1667	2167	1250	333	1416	0	
			ان	FRCENT	occuri		NTH AU		CHT ANI	) PERI	αp		
HETOUT/METERS			•				OD (SEC						TOTAL
HEIGHT (METERS)						PERI	UDISEC	UNUS					
	1. 0 <del>-</del> 2. 9	3. 0 <del>-</del> 3. 9	4 0- 4. 9	5 0- 5. 9	6 0 <del>-</del> 6. 9	7.0 <del>-</del> 7.9			10 0-			16 0- 9 LONGER	
0.00 - 0.49				82			820	574		328	246		2050
0 50 - 0 99	164	246	328	410	328	656	1985	1230	82	574	410		6313 6301
1.00 - 1.49 1.50 - 1.99			164	82	246 410	164	328	92 82					492
2 00 - 2 49						82							82
2.50 - 2.99		•				-							0
3.00 - 3.49 3.50 - 3.99		•											ŏ
4 00 - 4 49													0
4 50 - 4 99					•								0
5 00 - GREATER TOTAL	164	246	492	574	984	902	3033	1968	82	902	656	0	•
			۴	ERCENT	OCCUR		ONTH SE (X100)		IGHT AN	D PER:	OD		
HEIGHT (METERS)						PERI	OD ( SE (	ONDS)					TOTAL
	1. U- 2. 9	3.0÷ 3.9	4 0-	5.0 <del>-</del> 5.9	6.0 <del>-</del> 6.9		8.0- 9 8 9					16.0+ 9 LONGER	
0 00 - 0.49				91	91	91	182	182	1818	455	91	91	3092
0 50 - 0.99			91	182	91 91	182	364	545 273	1455	182	91 364		263B 3183
1 00 - 1 49 1 50 - 1 99			273	91 91	364	364 273	273	2/3	91	182	364		1001
2 00 - 2 49			,								91		91
2.50 - 2 99 3 00 - 3 49													0
3 50 - 3 99													0
4 00 - 4 49													0
4 50 - 4 99 5 00 - GREATER													0
TOTAL	0	Ö	364	455	637	910	819	1000	4273	819	637	91	J

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(Continued)

(Sheet 3 of 4)

# Table C5 (Concluded)

			p	FRCENT	nccur	MO RENCE(	NTH DC	T OF HEI	OUT 44				
HEIGHT (METERS)			•	CHOCKI	UCCON				GHT AN	D PER	100		
······································							OD (SEC						TOTAL
	1. 0- 2. 9	3. 0~ 3. 9	4. 0 <del>-</del> 4. 9	5. y- 5. 9	6.9	7 O- 7. 9	8.0- 8.9	9 0-	10 0- 11 9	12 0- 13	- 14 0- 9 15.9	16 0- LONGER	
0 00 - 0 49 0 50 - 0 99			95	286		667	571		286	190	476		2571
1 00 - 1 49	-	190	95 95	286	381	667	762	190	95		571		3237
1 50 - 1 99	•		73	381 286	381 381	286 95	381 95	381 190	286 190		95		2286
2 00 - 2 49						95		190	170				1237 285
2 50 - 2 99 3 00 - 3 49								381					381
3.50 - 3.99			•										ò
4.00 - 4 49												*	0
4.50 - 4.99					•	,					9		0
5.00 - GREATER TOTAL	_	:											ŏ
TOTAL	0	190	285	1239	1143	1810	1809	1332	857	190	1142	0	•
			PI	ERCENT	OCCUR		NTH NO X100)	V OF HEI	OHT AN	D PERI	OD OO		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. U- 2. 9	3. 0~ 3. 9	4. 0 <del>-</del> 4. 9	5. 0- 5. 9	6. 0 <del>-</del> 6. 9	7. 0- 7. 9	8. 0- 8. 9	9 0- 9.9	10 0- 11 9		14 0- 9 15 9	16.0- LONGER	
0.00 - 0.49				189			94	94	94	189	366		1226
0.50 - 0.99					189	189	566	660	849	1038	755		1226
1 00 - 1 49		94		660	283	189	566	377			283		2452
1.50 - 1.99 2.00 - 2.49		•			94 94	189	566	189	94				1132
2.50 - 2.99					74	•	94	283	189 189				377
3.00 - 3.49								200	107			•	<b>566</b> 0
3.50 - 3.99	•												ŏ
4.00 - 4.49 4.50 - 4.99	•												0
5 00 - GREATER		,	•					•					0
TOTAL	O	94	o	849	660	567	1986	1697	1415	1227	1604	0	0
							NTH DE						
			PE	ERCENT	OCCURI	RENCE	X100)	OF HEI	SHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. U- 2. 9	3. 0- 3. 9	4. 0- 4. 9	5. 0- 5. 9				9.0- 9.9	10 0- 11 9	12. 0- 13.	14 0- 9 15.9	16.0- LONGER	
0.00 - 0 49		89		179	179	179	179	1161	625	804	714		4109
0.50 - 0.99			89	982	357	268	179	179	536	357	804		3751
1 00 - 1 49 1 50 - 1 99				625	357			89	89		26 <b>8</b> 357		1428 446
2 00 - 2 49		•		89		89	•			89	357 89		267
2 50 - 2 99					•	0 -				•			0
3 00 - 3 49													0
3 50 - 3 99													0
4 00 - 4 49 4 50 - 4 99		•				•	•						0
5 00 - UREATER			•										ŏ
TOTAL	Ö	89	89	1875	893	536	358	1429	1250	1250	2232	0	

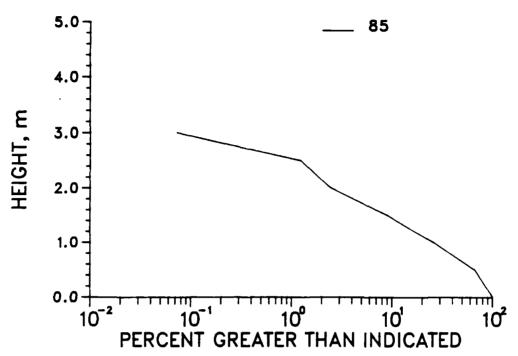


Figure C3. 1985 annual cumulative distribution of  ${\rm ~H}_{\rm mo}$  for Gage 625

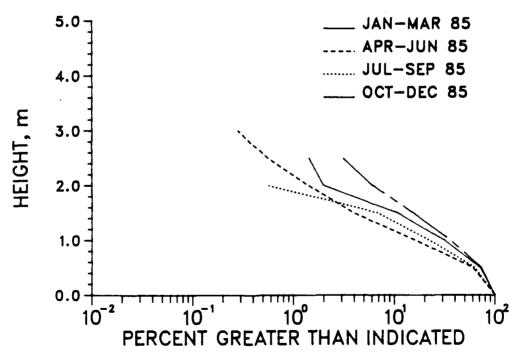


Figure C4. 1985 seasonal cumulative distribution of  $_{\text{mo}}^{\text{H}}$  for Gage 625

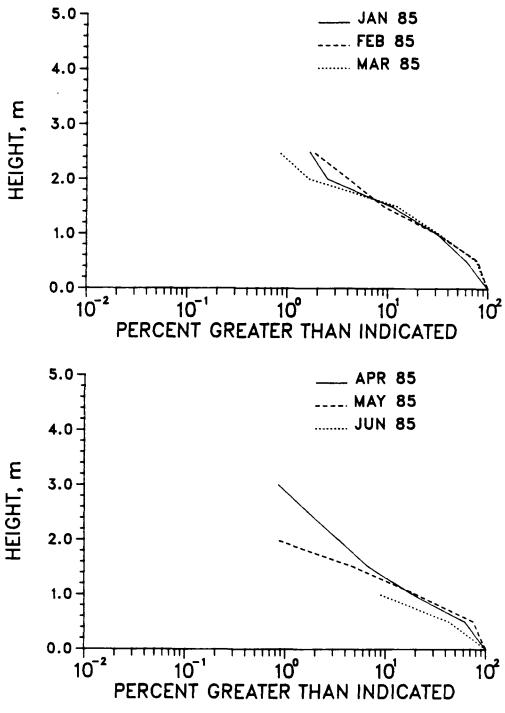


Figure C5. 1985 monthly cumulative distribution of H for Gage 625 (Continued)

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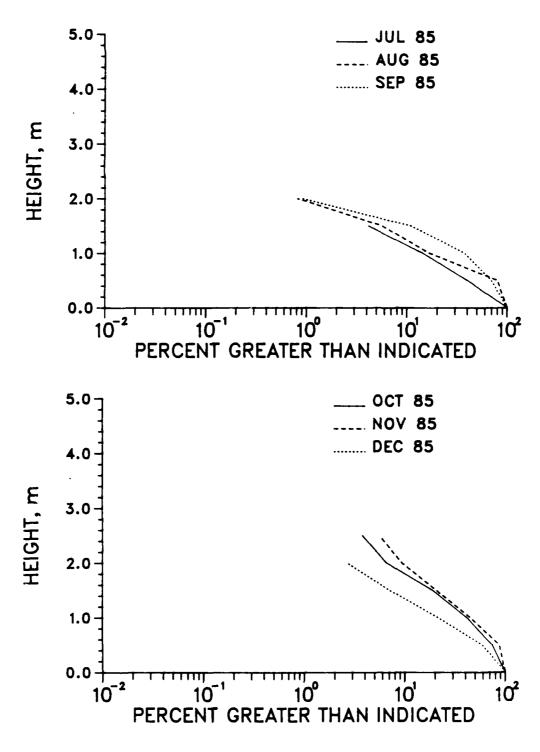


Figure C5. (Concluded)

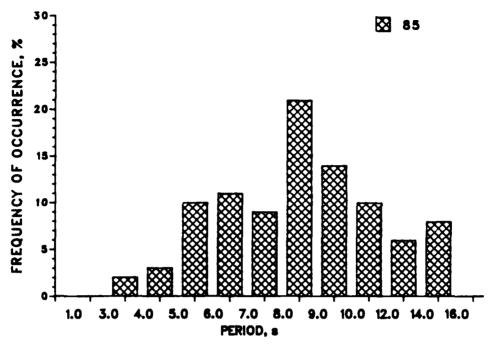


Figure C6. 1985 annual distribution of  $T_{p}$  for Gage 625

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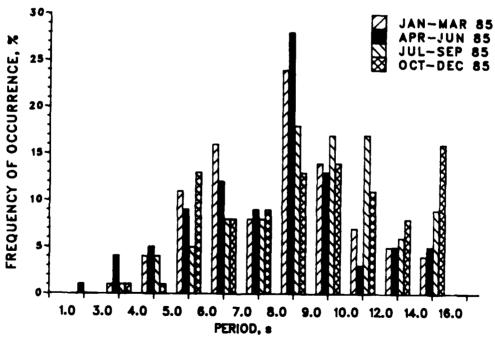
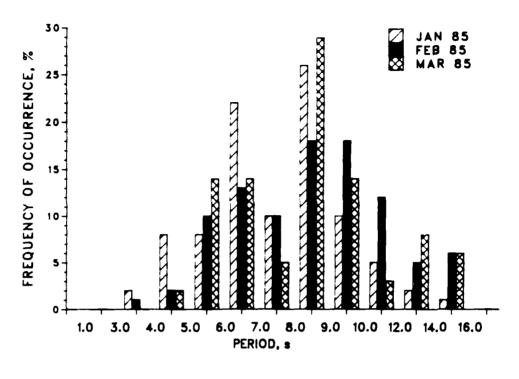


Figure C7. 1985 seasonal distribution of  $T_{p}$  for Gage 625



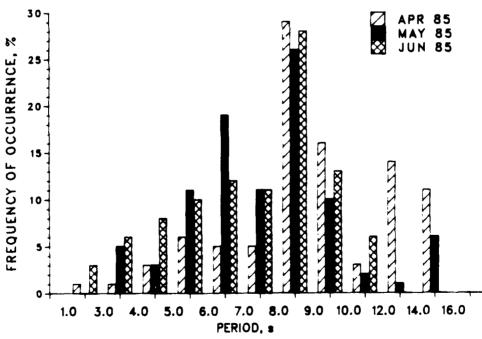
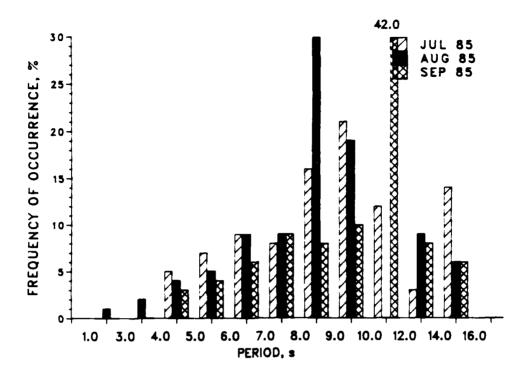
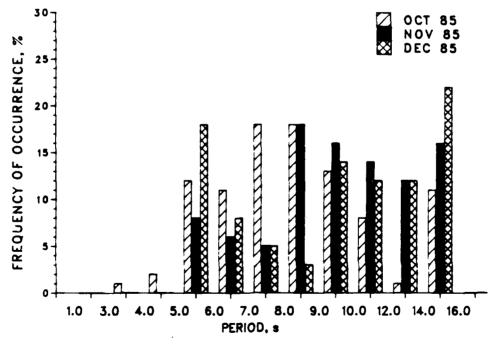


Figure C8. 1985 monthly distribution of T for Gage 625 (Continued)

4. 222.22224 - 222.224 - 222.2224 - 222.224 - 222





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Figure C8. (Concluded)

THE STATE OF THE PROPERTY OF STATE OF S

Table C6 1985 Persistence of H for Gage 625

2.5 7 2 1	3	8	4 4	5 5	21	7	8   13	11 12 12 10	11 12 12	13	3 3 3	2 9 10 15 14 13 3	16 6 1	9 18 16	20 20 20 2	26 14 3	22 22 6 6 1	33 33 15 6 6	1 36 44 31 13	
																			•	,
																	-	9	13	2.0
2.0 13 6 1													-		2	٣	9	15	31	1.5
1.5     31     15     6     3     2     1       2.0     13     6     1											3		9	<b>&amp;</b>	10	14	22	33	77	1.0
44     33     22     14     10     3       31     15     6     3     2       13     6     1			4	2		7	80	10	12	13	14	15	16	18	20	26	29	31	36	0.5
36     31     29     26     20     18       44     33     22     14     10     8       31     15     6     3     2       13     6     1	l	<u>81</u>	11	19	15	14	<u>13</u>	12	=1	2]	6	æ۱	7	9	5	4	اع	2	-1	8
1     2     3     4     5     6     7     8     9     10     11     1       36     31     29     26     20     18     16     15     14     13     12     1       44     33     22     14     10     8     6     3     3       31     15     6     3     2     1       13     6     1							Ī	LUIBE	10 (	מי לשת	2 4 7 7 1	nseco	۲							

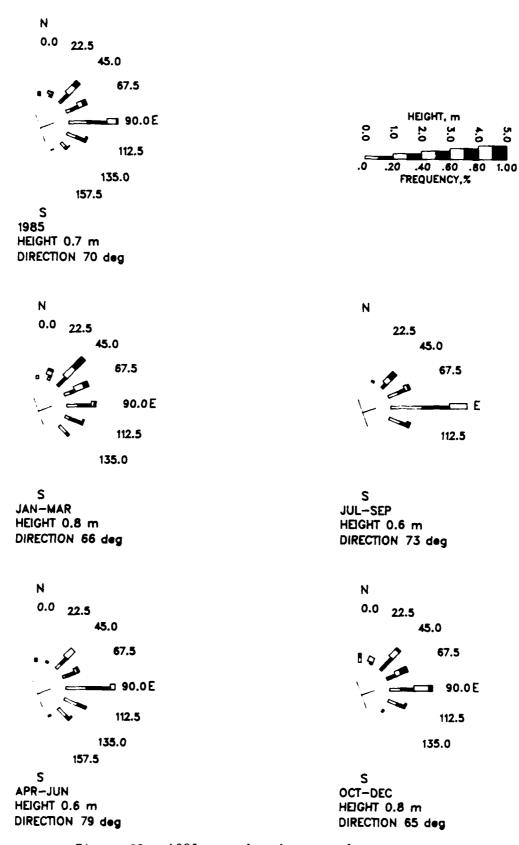
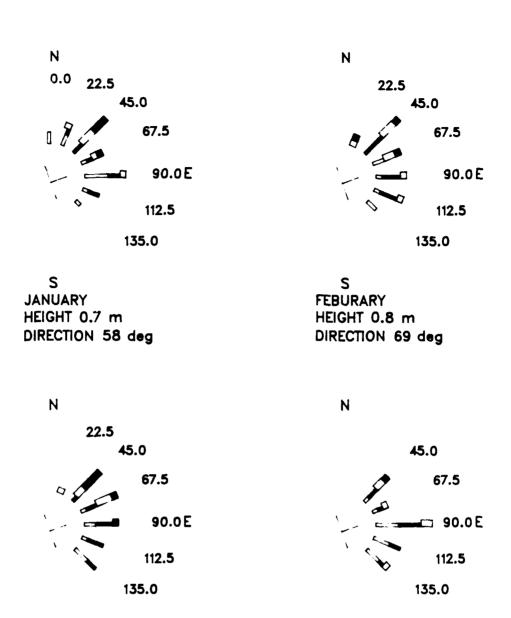


Figure C9. 1985 annual and seasonal wave roses



S S
MARCH APRIL
HEIGHT 0.8 m HEIGHT 0.7 m
DIRECTION 71 deg DIRECTION 85 deg

Resear Province Belleville Research Research Research Province Research Research Research Research

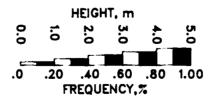
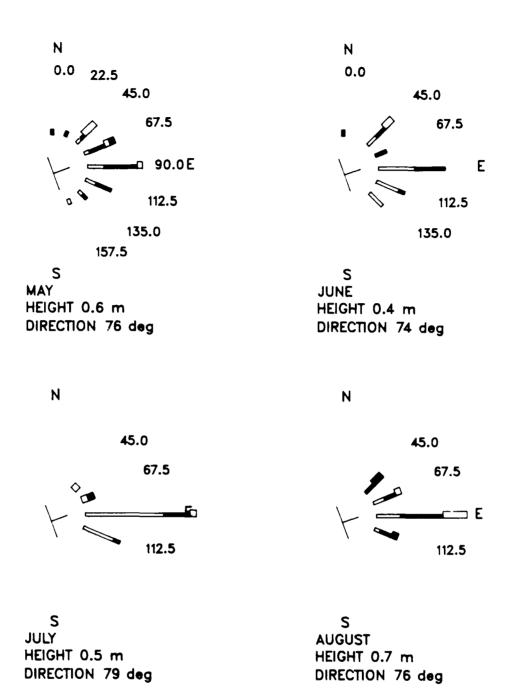


Figure ClO. 1985 monthly wave roses (Sheet 1 of 3)



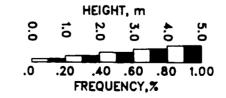
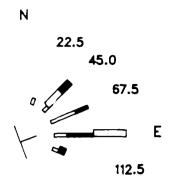
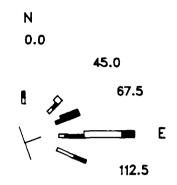
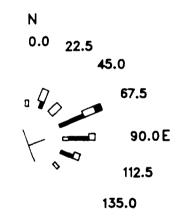


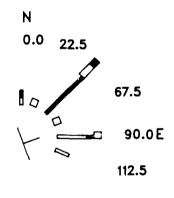
Figure ClO. (Sheet 2 of 3)





S SEPTEMBER HEIGHT 0.7 m DIRECTION 66 deg S OCTOBER HEIGHT 0.9 m DIRECTION 80 deg





S NOVEMBER HEIGHT 0.9 m DIRECTION 68 deg

S DECEMBER HEIGHT 0.6 m DIRECTION 43 deg

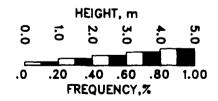


Figure ClO. (Sheet 3 of 3)

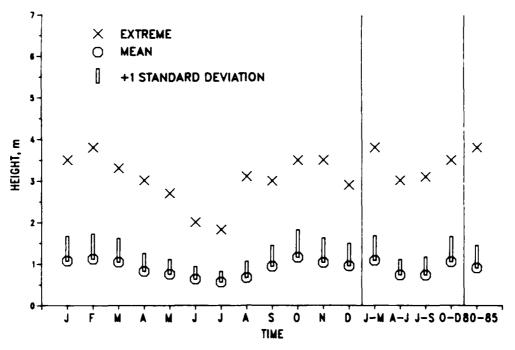
Table C7

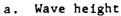
1980 Through 1985 Mean, Standard Deviation and

Extreme H and T for Gage 625

MONTH	MEAN HEIGHT (M)	STD.DEV. HEIGHT (M)	MEAN PERIOD (SEC)	STD.DEV. PERIOD (SEC)	EXT. HEIGHT (M)	DATE	NUMBER OBS.
JAN	1.1	0.6	8.3	2.7	3.5	83	584
FEB	1.1	0.6	9.2	2.6	3.8	83	592
MAR	1.0	0.6	9.1	2.8	3.3	83	652
APR	0.8	0.4	9.4	2.6	3.0	85	584
MAY	0.7	0.4	8.3	2.3	2.7	81	685
JUN	0.6	0.3	8.1	2.3	2.0	83	603
JUL	0.5	0.3	8.7	2.9	1.8	85	533
AUG	0.7	0.4	8.4	2.6	3.1	81	620
SEP	0.9	0.5	9.1	2.7	3.0	83	601
OCT	1.1	0.7	9.3	3.0	3.5	80	691
NOV	1.0	0.6	9.0	3.2	3.5	81	651
DEC	0.9	0.5	9.0	3.2	2.9	80	606
JAN-MAR	1.1	0.6	8.9	2.7	3.8	FEB 1983	1828
APR-JUN	0.7	0.4	8.6	2.5	3.0	APR 1985	1872
JUL-SEP	0.7	0.4	8.7	2.7	3.1	AUG 1981	1754
OCT-DEC	1.0	0.6	9.1	3.1	3.5	OCT 1981	1948
ANNUAL	0.9	0.5	8.8	2.8	3.8	FEB 1983	7402

SACTOR AND SEED OF THE SECOND CONTRACTOR OF THE SECOND SEC





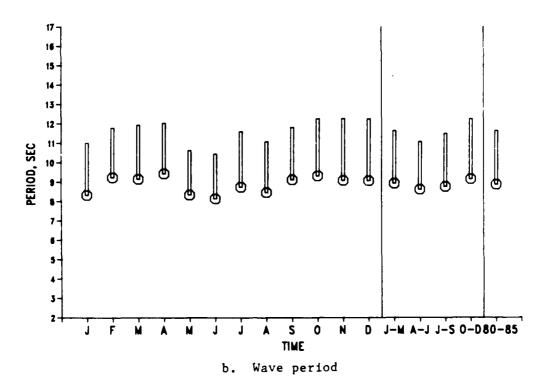


Figure C11. 1980 through 1985 mean, standard deviation, and extreme  $\frac{H}{mo}$  and  $\frac{T}{p}$  for Gage 625

Table C8

1980 Through 1985 Annual Joint Distribution of

H versus T for Gage 625

			PI	ERCENT	OCCUR	RENCE (	ANNUA		CHT ANI	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1 0- 2.9	3. 0- 3. 9	4 0- 4. 9	5 0- 5. 9	6 0- 6. 9	7 0- 7 9	8.0-	9 0-	10 0- 11 9		14 0- 9 15 9	16 0- LONGER	
0 00 - 0 49	11	24	38	51	112	205	345	388	428	218	227	19	2066
0 50 - 0 99	4	70	242	372	493	442	593	713	1017	238	311	45	4540
1.00 - 1 49		1	62	273	409	259	173	178	427	51	17-	4	2014
1.50 - 1.99			3	62	196	134	55	62	142	54	99	8	815
2.00 - 2.49				1	30	46	24	41	74	51	62	ā	332
2.50 - 2.99					4	15	23	27	41	20	45	3	179
3.00 - 3 49							4	4	16	9	12		45
3.50 - 3.99									4	1	4		9
4 00 - 4.49													0
4.50 - 4 99													0
5.00 - GREATER													U
TOTAL	15	95	345	759	1244	1101	1217	1413	2149	642	937	82	

Table C9

1980 Through 1985 Seasonal Joint Distribution of

H versus T for Gage 625

		PERCENT	SEASONA OCCURRENCE (X1			OD	
HEIGHT (METERS)			PERIO	O(SECONDS)			TOTAL
	1 0- 3 0-	4 0~ 5 U- 9 4 9 5.9	6 9 7 9	8 0- <b>9</b> 0- 8 <b>9</b> 9 9	10 0- 12 0-		
0 00 - 0 49 0 50 - 0 99	11 16 88	213 361	71 71 427 356	191 186 547 498	257 126 1089 159	137 356 11	1126 4105
1 00 - 1 49 1 50 - 1 99 2 00 - 2 49		77 339 93	531 284 241 197 33 82	181 191 71 115 33 44	667 55 246 93 126 104	306 142 <b>5</b> 115	2631 1203 537
2 50 - 2 99 3 00 - 3 49			5 11	44 22 11 5	93 55 3 <b>8</b> 11	82 11	312 76
3 50 - 3 99 4 00 - 4 49 4 50 - 4 99					5	Ę	10 0
5 00 - GREATER TOTAL	11 104	317 826	1308 1001	1078 1061	2521 603	1154 16	0

(Continued)

# Table C9 (Concluded)

Sabada desertes adaptabas accorda desertes attacces

			PĘ	ERCENT	OCCUR	SEASO!	NAL A			D PERI	OD		
HEIGHT (METERS)						PERI	DD (SEC	ONDS)					TOTAL
	1 0- 2 9	3 O- 3 9	4 0-	5 U- 5 9	6 0- 6 9				10 0-			16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99	32 5	<b>48</b> 101	59 267 43	48 379 139 43	224 438 235 69	288 529 230 37	625 929 214 37	427 1111 182 43	417 1181 390 91	150 208 32 5	182 230 107 75	5 21	2505 5399 1572 400
2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49				5	11	16 11	5	11 5	32 5	5	5	5	95 21 5 0
4 50 - 4 99 5 00 - GREATER TOTAL	37	149	369	614	977	1111	1810	1779	2116	400	604	31	0
			99	RCENT	OCCUR	SEASON RENCE (X	IAL JU		SHT AND	PERIO	מכ		
HEIGHT (METERS)						PERIC	D(SEC	NDS)					TOTAL
	1 0-	3 0 <del>-</del> 3. 9	4. 0 <del>-</del> 4. 9	5. 0- 5. 9	6. 0- 6. 9	7. 0 <del>-</del> 7. 9	8. 0- 8. 9	9 0- 9 9	10 0- 11 9			16 0- P LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49	11	23 68	40 245 46	51 353 228	131 644 331	342 570 205	473 593 171	787 770 165	735 758 251	359 257 29	268 205 86	51 57	3260 4531 1512
1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49			•	51	148	97 17 6	40 6 11	40 11 17 6	51 17 29 11	29 11	29 46 17		485 114 80 17
3 50 - 3 99 4 00 - 4 49 4 50 - 4 99						•							0 0
5.00 - GREATER TOTAL	11	91	331	683	1260	1237	1294	1796	1852	685	651	108	0
			PI	ERCENT	OCCUF	SEASO RRENCE (	NAL 0 X100)			D PERI	סס		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0÷ 2. 9	3. 0- 3. 9	4. 0- 4. 9	5. 0- 5. 9		7 0- 7 7 9						16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99		10 26 5	26 241 82 10	72 390 380 62	26 472 534 318 67 10	128 323 313 200 67 31	103 313 128 72 51 36 5	180 483 175 51 92 62 5	323 1027 395 175 118 36 15	241 323 87 87 82 26 26	318 441 205 144 82 77 31	21 87 15 26 5	1448 4126 2319 1145 564 288 82 25 0
5.00 - GREATER TOTAL	0	41	359	904	1427	1062	708	1048	2099	877	1308	164	0

Table C10
1980 Through 1985 Monthly Joint Distribution of

H versus T for Gage 625

						MO	 NTH JA	NN .					
			þ	ERCENT	OCCUR				GHT AN	D PER	100		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0 <del>-</del> 2. 9	3. 0- 3. 9	4. 0- 4. 9		6. 0- 6. 9	7.0- 7.9	8. 0- 8. 9	90-	10 0-		- 14 0- 9 15	16 0- 9 LONGER	
0 00 - 0.49 0.50 - 0 99 1.00 - 1.49 1.50 - 1 99 2.00 - 2.49 2.50 - 2 99	17	51 154	96 308 68	51 411 479 51	137 411 822 274 51	137 257 240 342 154	291 411 188 51 17	223 342 154 154 68	291 873 514 240 205	86 205 34 86	103 342 103 51 137	17	1473 3731 2568 1197 718
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER					17	17	51	34 17	51 17	51	51		272 17 17 0 0
TOTAL	17	205	462	992	1712	1147	1009	992	2191	462	797	17	0
			۴٤	ERCENT	OCCUR		NTH FE		GHT ANI	D PERI	OD		
HEIGHT (METERS)						PERI	DO(SEC	ONDS)					TOTAL
	1. 0- 2. 9	3. 0- 3. 9	4, 0- 4, 4	5. 0- 5. 9	6. 0- 6. 9	7 0- 7. 9	8 0- 8.9	9 0- 9 9			14 0- 9 15 9	16 0- P LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER		51 	101 68	17 236 270 152	34 372 439 321 17	51 355 270 135 68	84 574 186 68 34 34	169 659 203 118 68 34	236 1436 794 270 101 135 68	118 68 101 152 118 34	118 304 236 152 152 169 17	17	827 4173 2567 1368 558 406 85 17 0
TOTAL	0	51	169	675	1183	879	980	1251	3040	591	1165	17	· ·
			PE	RCENT	DCCURF		NTH MAR (100) (		HT AND	) PERI	OD		
HEIGHT (METERS)						PERIO	D(SEC	ONDS)					TOTAL
	1.0- 2.9	3.0-	4. 0 <del>-</del> 4. Y	5 0- 5 9	6 0 <del>-</del> 6. 9	7 0- 7 9			10 0-		14 0- 9 15 9	16 0- LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99	15	61	230 92	31 429 276 77	46 491 353 138 31	31 445 337 123 31 15	199 644 169 92 46 46 31	169 491 215 77	245 966 690 230 77 92 46	169 199 61 92 107 77 31	184 414 552 215 61 31 15	15	1089 4370 2745 1059 353 261 123 0
5 00 - GREATER TOTAL	15	61	322	813	1059	982	1227	952	2346	736	1472	15	ن ه

SASTERASASSE ASSASSASE ANNO TO BELLEGIA TO LUCUSIONE DISTINICA SECURIO DE LIBERTARIO DE LA PROPERTO DE LA POSSO DELLA POSSO DE LA POSSO DELA POSSO DE LA POSSO DELLA POSSO DEL

(Continued)

(Sheet 1 of 4)

# Table Cl0 (Continued)

						MO	NTH AF	·R					
UE TOUT ( we send )			P	ERCENT	OCCUR				GHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	(DNDS					TOTAL
	1 0- 2 9			5 0- 5.9		7 O- 7 9	8 0- 9 - 8.9		10 c- 11 9		9 15	16 0- 7 LONGER	
0 00 - 0 49	34	17	17	17	86	86	565	308	394	240	308		2072
0.50 - 0.99 1.00 - 1.49	•	34	154 103	171 205	188 342	411 342	582 86	822 171	1754 531	350	479 205	17	4982
1.50 - 1.99			103	34	103	51	51	103	171	68 17	120		2053 650
2 00 - 2 49				17	17		17	17	103	•			171
2.50 - 2.99 3.00 - 3.49						34		17			17		51
3.50 - 3.99											1.		17
4 00 - 4 49													ŏ
4.50 - 4.99													0
5.00 - GREATER TOTAL	34	51	274	444	736	924	1301	1438	2043	685	1129	17	0
TOTAL	34	31	2/4	***	/36	724	1301	1436	£763	097	1124	17	
			۳	ERCENT	OCCUR		3NTH M (X100)		IGHT AN	ID PERI	100		
HEIGHT (METERS)						PER	(OD (SE	CONDS)					TOTAL
	1. U- 2. 9	3. 0 <del>-</del> 3. 9		5. 0- 5. 9			8.0- 8.9	90-			- 14 C- 9 15	16 0- 9 LONGER	
0.00 - 0.49	15	29	44	29	219	263	438	423	350	117	175		2102
0 50 - 0 99 1 00 - 1 49		146	292	467	672	569	1212	1226	934	102	175	15	5810
1 50 - 1 99			15	<b>88</b> 73	219 73	248 15	336 58	204 29	365 44	29	102 73		1606
2.00 - 2.49				, 3	15	29	36	15		15	15	15	365 104
2.50 - 2.99	•								15				15
3.00 - 3 49 3.50 - 3 99				*									0
4.00 - 4.49													ပ 0
4.50 - 4.99													ŏ
5.00 - GREATER TOTAL	15	175	351	657	1198	1124	2044	1007	4.700	- · -			0
.0142	.5	1/3	351	83/	1178	1124	2044	1847	1708	263	540	30	
							NTH JU						
HEIGHT (METERS)			71	RCENT	DCCUR		OD(SEC		GHT AN	D PEFI	CD		TOTAL
	1. U- 2. 9	3. 0- 3. 9	4 0-	5 O- 5 9	6 0- 6 9	7 0-	8 0-	9 0-			14 (-	16 0- P LONGER	, ,
0 00 - 0 49	50	100	116	100	365	514	896	547	514	100	56	17	3395
0 50 - 0 99	17	116	348	481	415	597	945	1260	896	182	50	33	5340
1 00 - 1 49 1 50 - 1 99		•	17	133 17	149 33	100 50	199	166	282		1 7 33		199
2 00 - 2 49				1/	<i>ڊ</i> و	17			66		د د		17
2 50 - 2 99						-							3
3 00 - 3 49 3 50 - 3 99													0
4 00 - 4 49		•											၁ 0
4 50 - 4 99													3
5 00 - GREATER TOTAL		216					2045			200	4	50	0
TUIAL	67	<b>~16</b>	481	731	442	1278	2OA()	1 4 7 3	1/58	2H2'	166	50	

(Continued)

(Sheet 2 of 4)

# Table ClO (Continued)

			PI	ERCENT	OCCUR		NTH JUI X100)		GHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1 0-		4 0- 4 4	5 0- 5 9	6 0- 6 9				10 0~ 11 9			16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49		56 94	113 281 56	94 338 225	188 675 225 38	525 600 94 38	713 525 56 38	1220 788 56	99 <b>4</b> 498	432 356	413 94 19	38 131	4786 4370 731 114 0 0 0
4.50 - 4 99 5.00 - GREATER TOTAL	٥	150	450	657	1126	1257	1332	2064	1482	788	526	169	0
			p	ERCENT	OCCUR		NTH AU X100)		GHT AN	D PERI	OΦ		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0- 2. 9								10 0-			16 0- 9 LONGER	
0.00 - 0 49 0.50 - 0 99 1.00 - 1 49 1.50 - 1 99 2.00 - 2 49 2.50 - 2 99 3.00 - 3 49 3.50 - 3 99 4.00 - 4 49 4.50 - 4 99 5.00 - 9REATER	32	16 97	16 242 32	48 468 177 32	194 710 274 145 16	452 774 194 48 16	613 887 177 16	919 823 32 16 16	577 468 32 16 32 16	371 210 16	242 210 32 81	16 48	3564 4969 918 321 145 48 32 0
TOTAL	32	113	290	725	1339	1484	1709	1822	1257	597	565	64	v
			PI	ERCENT	OCCUR		NTH SE		GHT AN	D PEPI	OD		
HEIGHT (METERS)						PERI	DD (SEC	ONDS)					TOTAL
	1 0- 2 9		4. 0- 4. 4	5. 0- 5. 9					10 0- 11 9			16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99		17	216 50	17 250 283 116	17 549 483 250	67 333 316 200 33 17	116 349 266 67 17	266 699 399 100 33 33	566 1298 699 133 17 67	203 216 83 67 33	166 300 233 50 50 50	100	1598 4227 2812 983 183 184 17 0
5 00 - GREATER TOTAL	0	17	266	666	1299	966	832	1530	2797	682	849	100	v

(Continued)

(Sheet 3 of 4)

# Table C10 (Concluded)

							NTH OC		<b>0117</b>				
			P	ERCENT	DCCUR	RENCE (			GH! AN	D PERI	OD		-0
HEIGHT (METERS)							OD(SEC						TOTAL
	1 0-	3. 0- 3. 9	4 0-	5 0- 5 9							9 15	16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99		43	14 174	43 246	362	145 275	174 333	130 449	304 1216	72 275	203 376	29 58	111 <b>4</b> 3807
1 00 - 1 49			72	362	434	289	101	188	535	101	275	29	23 <b>66</b> 1330
1.50 - 1 99 2 00 - 2 49			29	101	31 <b>8</b> 101	116 101	58 87	72 159	260 130	101	232 72	43 14	765
2.50 - 2.99 3.00 - 3.49					29	43	58 14	72	43	29 58	116 58	29	419 130
3 50 - 3 99									29	14			<b>43</b> 0
4.00 - 4 49 4.50 - 4 99													0
5 00 - GREATER TOTAL	0	43	289	752	1244	969	825	1070	2517	751	1332	202	0
	-												
			۱۲	ERCENT	DCCUR	MOI RENCE (	NTH NO X100)		CHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1 0- 2 9	3.0- 3.9	4. 0- 4. 9	5 0- 5 9							14 c- 9 15 '	16 0- 9 LONGER	
0.00 - 0 49 0 50 - 0 99			46	123	15	138	77	138	230	292	394		1443
1 00 - 1, 49		31 15	323 92	353 292	568 661	430 353	399 184	476 184	737 323	415 138	492 154	46 15	4270 2411
1 50 - 1 99 2 00 - 2 49				31	276 46	230 31	123 46	46 15	92 77	138 92	92 108	31	1059 415
2 50 - 2 99 3 00 - 3 49						15	46	61	31	46	61		260
3 50 - 3 99		*						15	46	15	31 31		107 31
4 00 - 4 49 4 50 - 4 99													0
5.00 - GREATER TOTAL													0
TOTAL	0	46	461	7 <b>99</b>	1566	1197	97 <b>5</b>	935	1536	1136	1353	92	
						<b>40</b>	NTH DE	<i>c</i>					
			P	ERCENT	OCCUR	RENCE			GHT AN	D PERI	00		
HEIGHT (METERS)						PERI	OD(SEC	ONDS)					TOTAL
	1 0-	3 0+ 3. 9	4 0-	5 0- 5 9							14 0- 9 15	16 0- 9 LONGER	
0 00 - 0 49 0 <b>50 -</b> 0 99		33	17 231	50 594	66 495	99 264	50 198	281 528	446 1122	380 281	380 452	33 165	1835 4340
1 00 - 1 49 1 50 - 1 99			83	495	512	297	99	149	314	17	182	.00	2148
2 00 - 2 49				50	363 50	264 66	33 17	33 99	155 149	1 7 50	99 66		10 <b>24</b> <b>49</b> 7
2 90 - 2 99 3 00 - 3 49						33		50	33		50		166 0
3 50 - 3 99 4 00 - 4 49													0
4 50 - 4 99													o 0
5 00 - GREATER TOTAL	0	33	331	1189	1486	1023	<b>39</b> 7	1140	2229	745	1239	198	o
	-												

(Sheet 4 of 4)

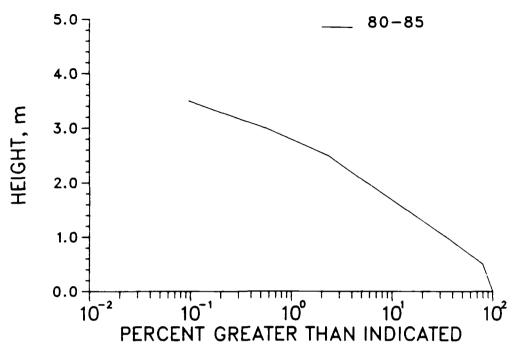


Figure Cl2. 1980 through 1985 annual cumulative distribution of H  $_{\rm mo}$  for Gage 625

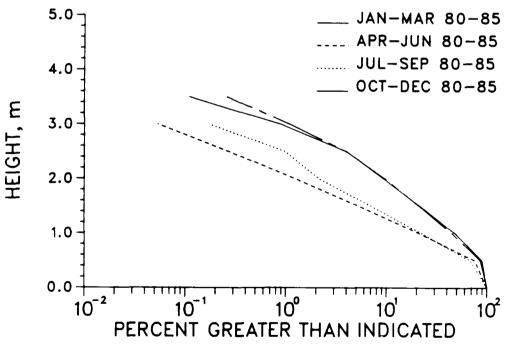


Figure C13. 1980 through 1985 seasonal cumulative distribution of  $\rm\,H_{mo}$  for Gage 625

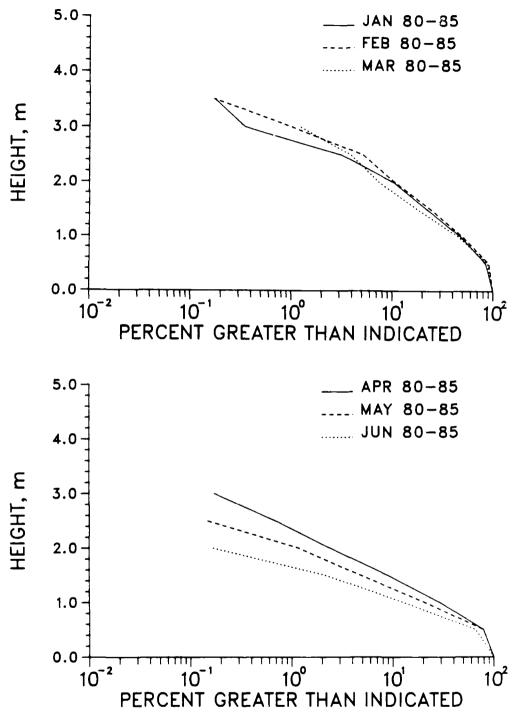


Figure C14. 1980 through 1985 monthly cumulative distribution of  $_{\text{mo}}^{\text{H}}$  for Gage 625 (Continued)

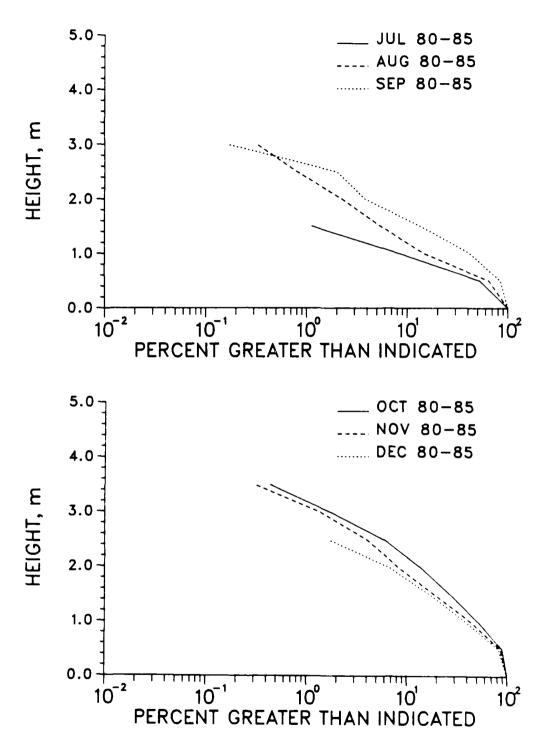


Figure Cl4. (Concluded)

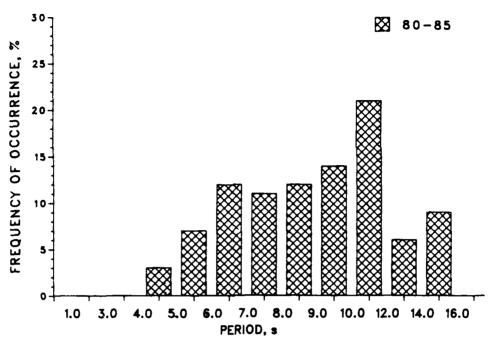


Figure C15. 1980 through 1985 annual distribution of  $T_{\rm p}$  for Gage 625

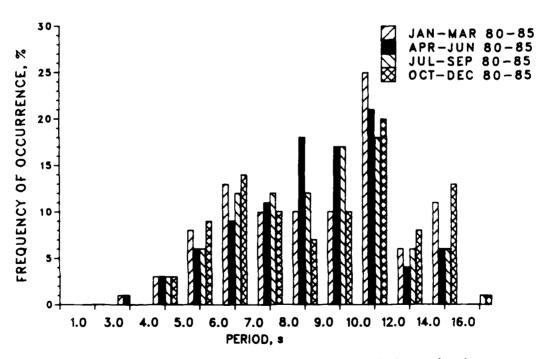
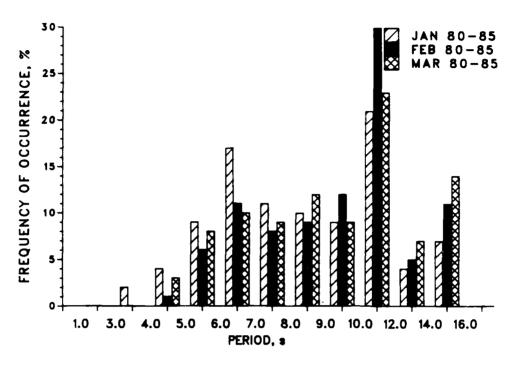
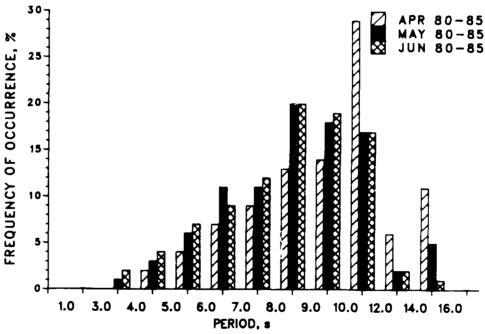


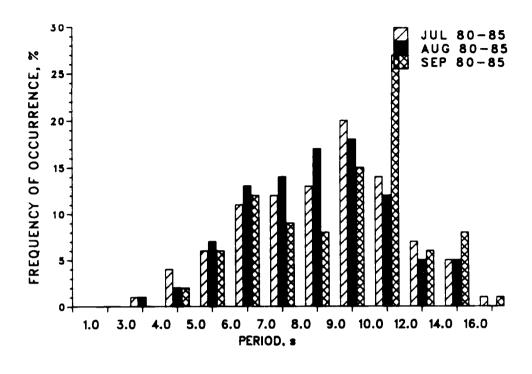
Figure C16. 1980 through 1985 seasonal distribution of T for Gage 625  $^{\rm p}$ 





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Figure C17. 1980 through 1985 monthly distribution of  $T_p$  for Gage 625 (Continued)



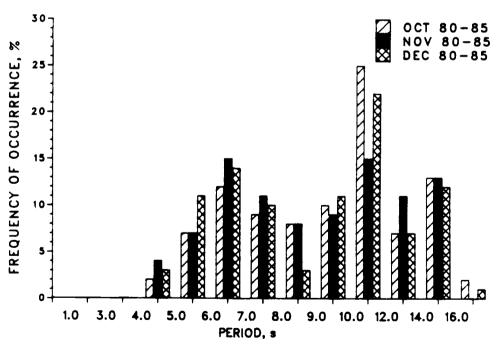
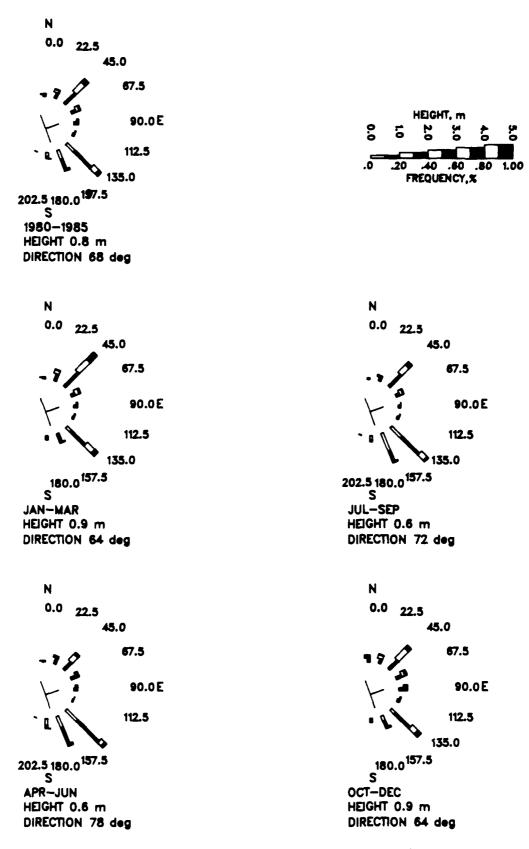


Figure C17. (Concluded)

Table C11

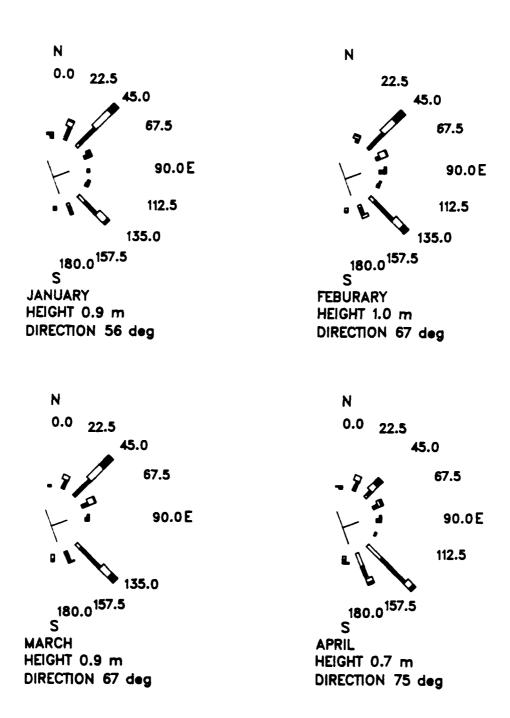
625	
Gage	
for	
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of	
Persistence	
1985	
Through	
1980	

Height							CO	Consecutive Day(s) or Longer	tive	Day(s	or (	Longe	۱,	ļ					
	-	12	ا ا	4	\   	91	-	   	61	21		12	13	14	15	16	17	18	194
	29	24	22	19		15	13	12	10			80				9		1	4
	97	32	23	16	11	6			7										
	31	18	6	9	2	3													
	16	6	2	ო															
	10	5	2																
3.0	3		3																
	2																		



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Figure C18. 1980 through 1985 annual and seasonal wave roses



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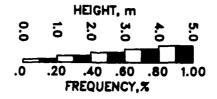
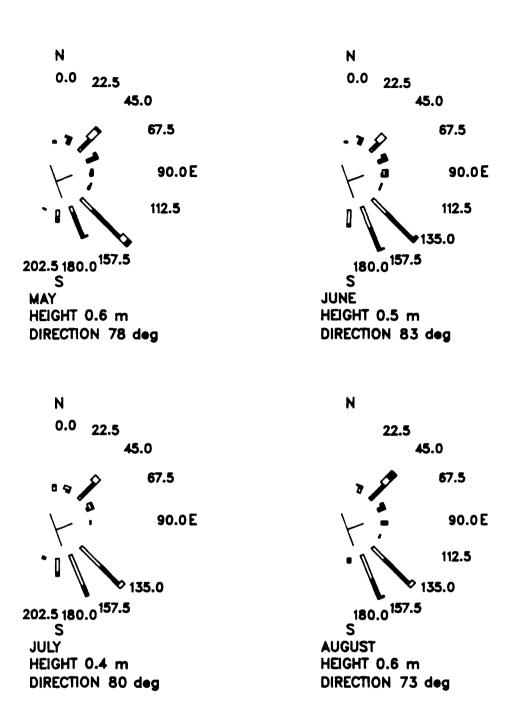


Figure C19. 1980 through 1985 monthly wave roses (Sheet 1 of 3)



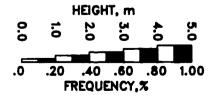
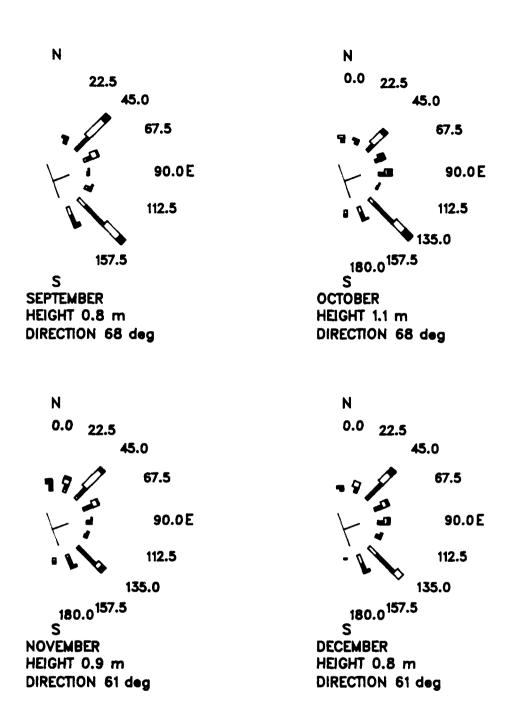


Figure 19. (Sheet 2 of 3)



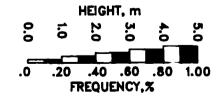


Figure 19. (Sheet 3 of 3)

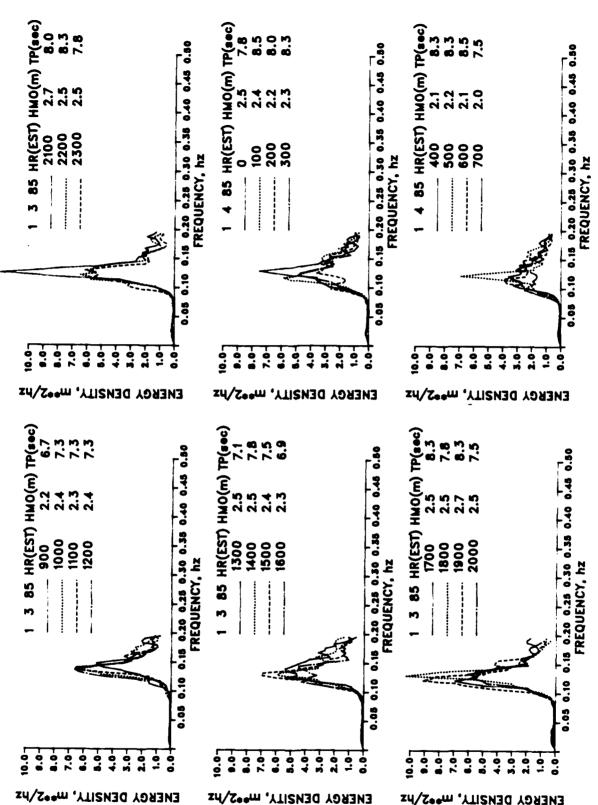
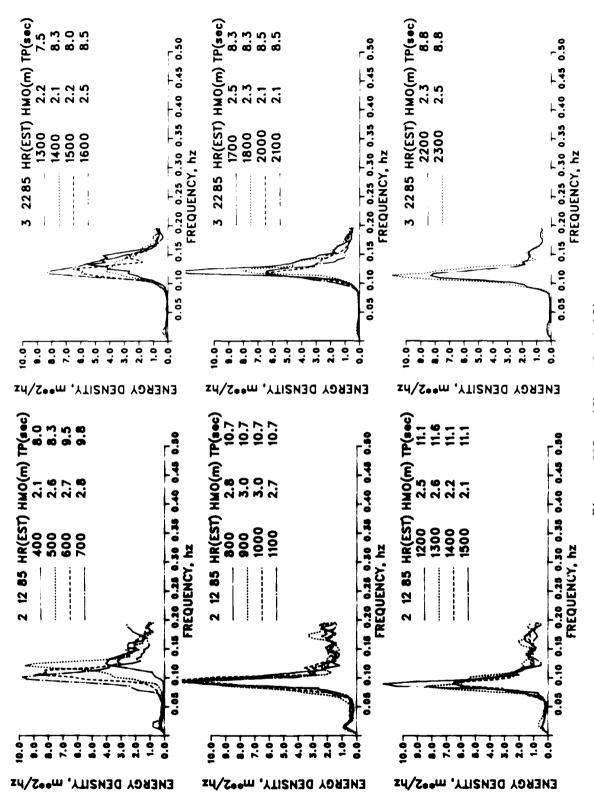


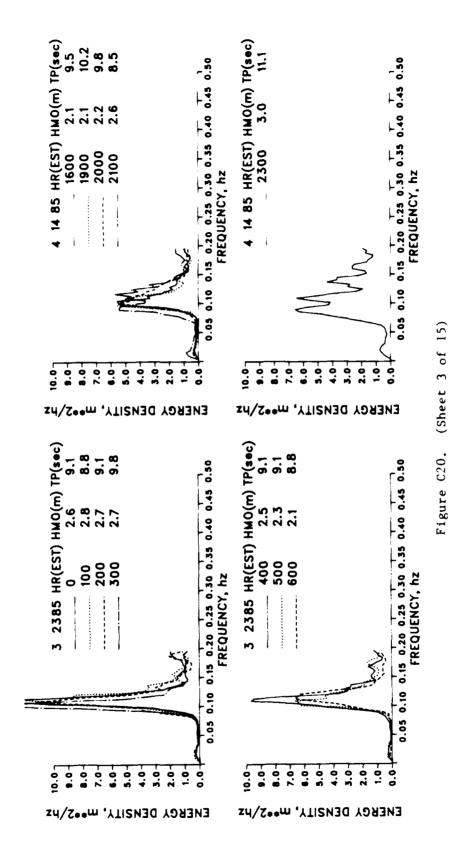
Figure C20. Spectra for waves >2 m, Gage 625 (Sheet 1 of

15)



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Figure C20. (Sheet 2 of 15)

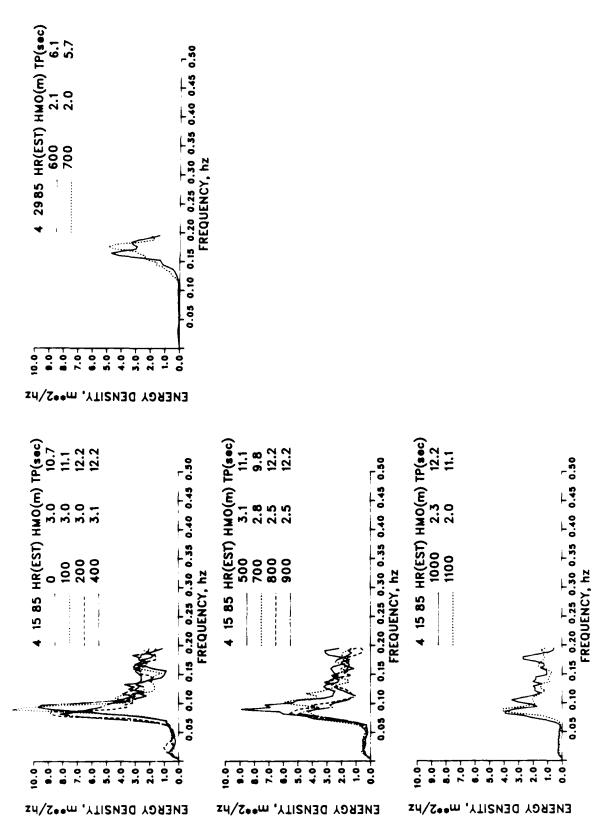


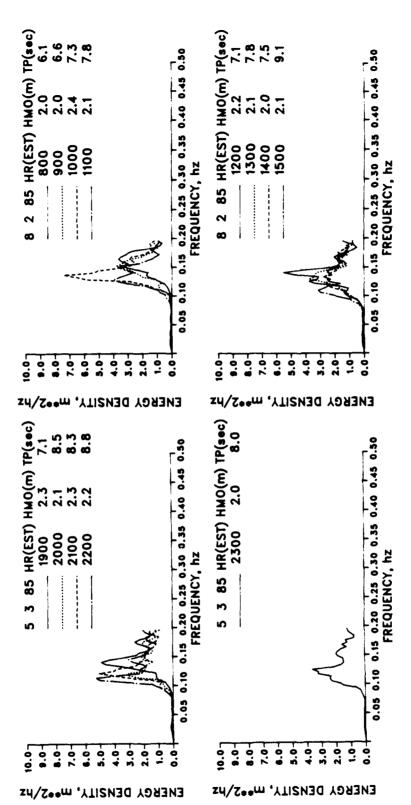
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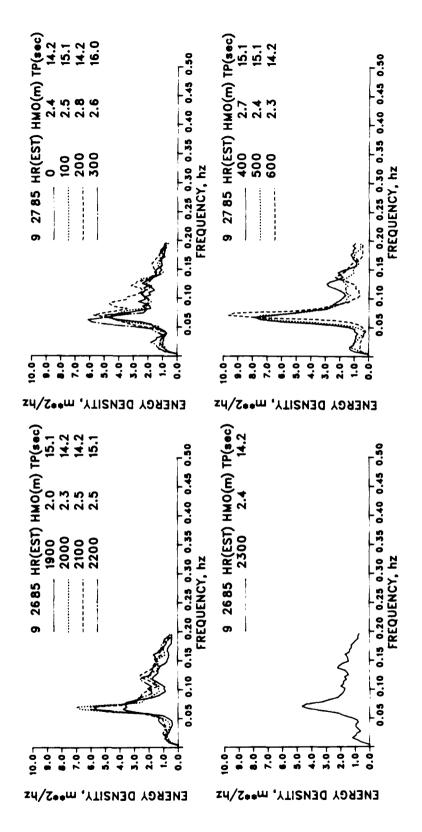




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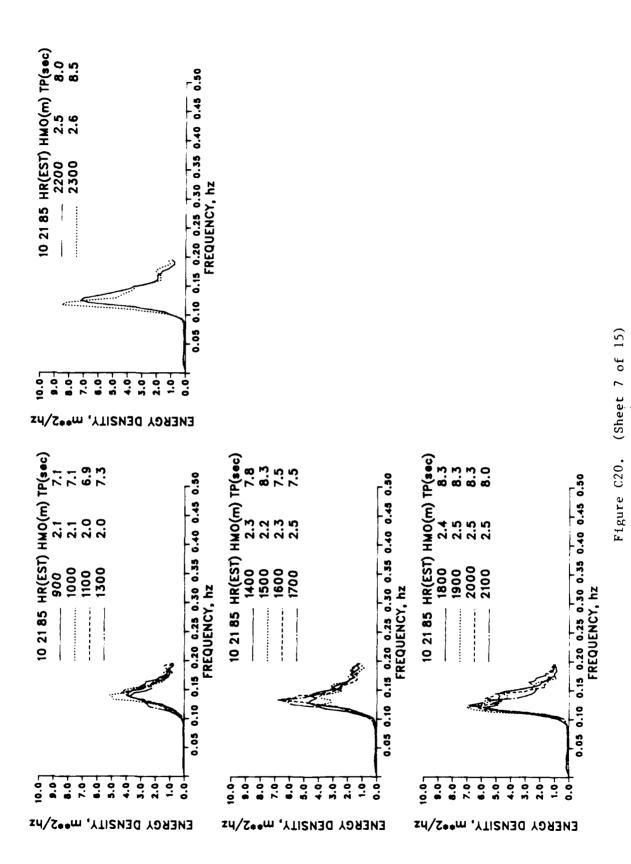
Figure C20. (Sheet 5 of 15)

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Figure C20. (Sheet 6 of 15)



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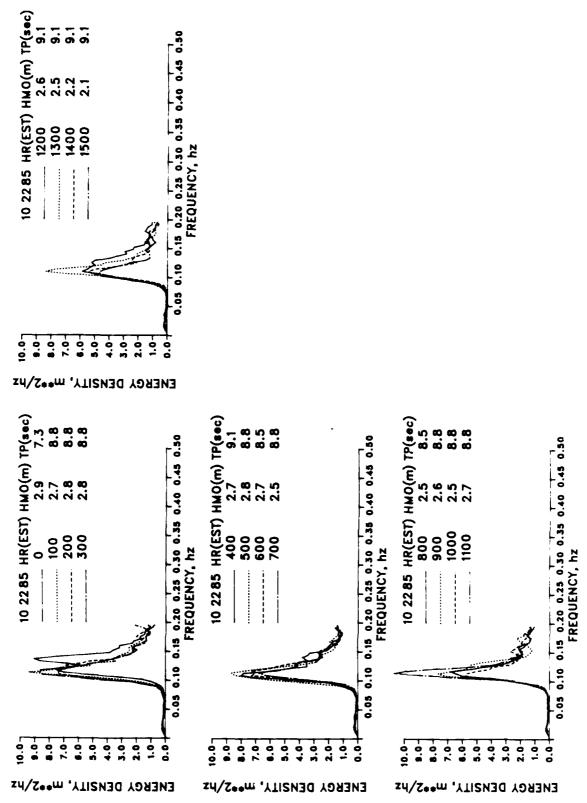


Figure C20. (Sheet 8 of 15)

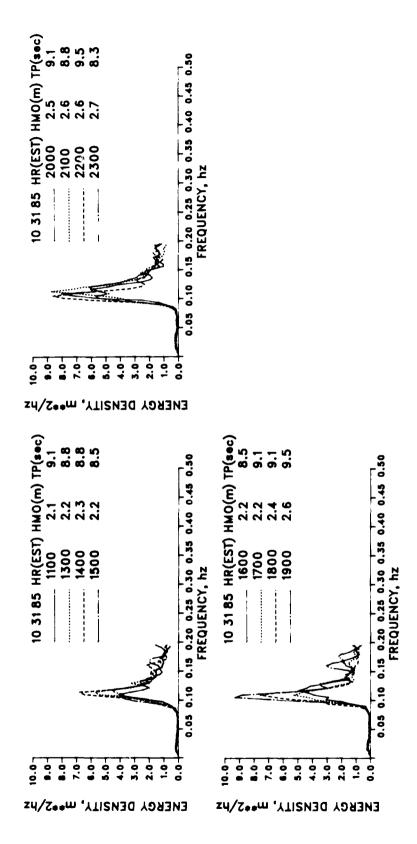
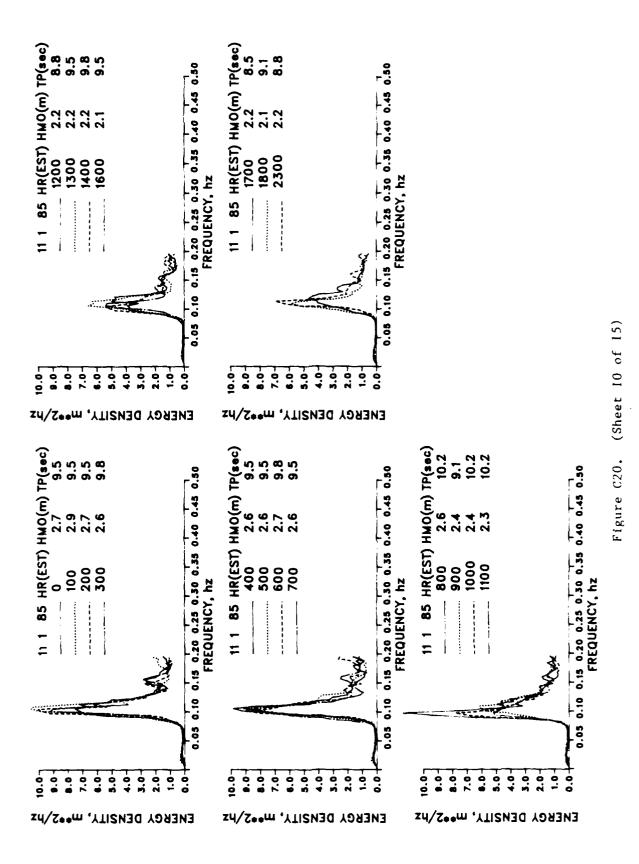
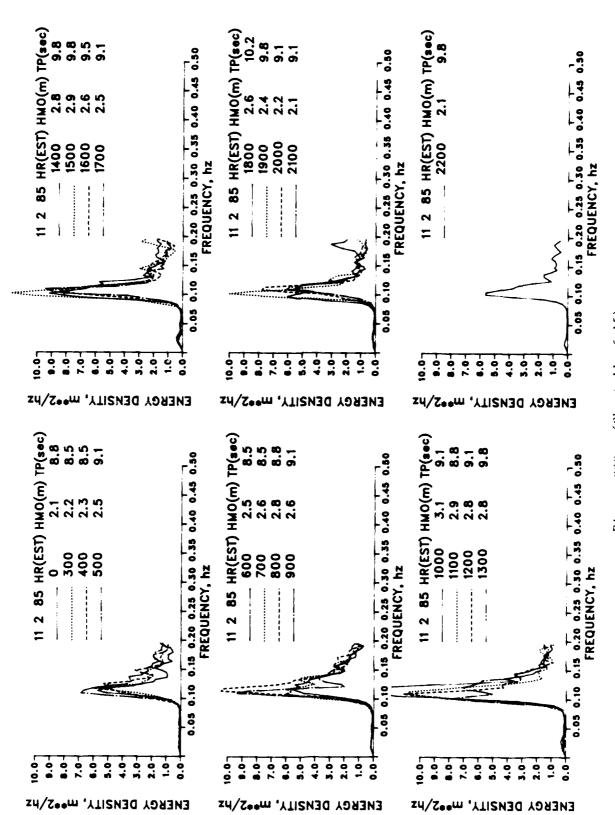


Figure C20. (Sheet 9 of 15)



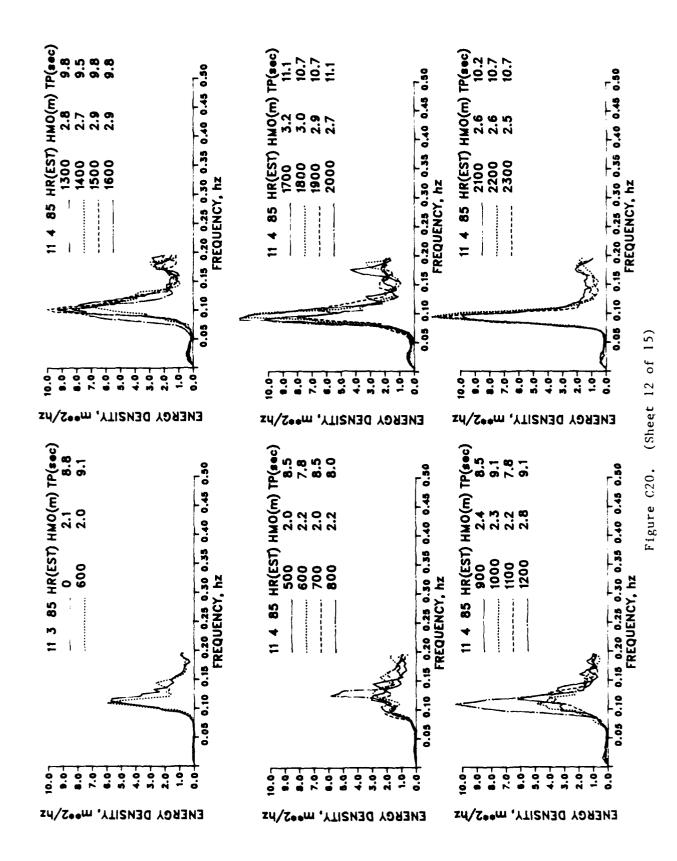
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Figure C20. (Sheet 11 of 15)

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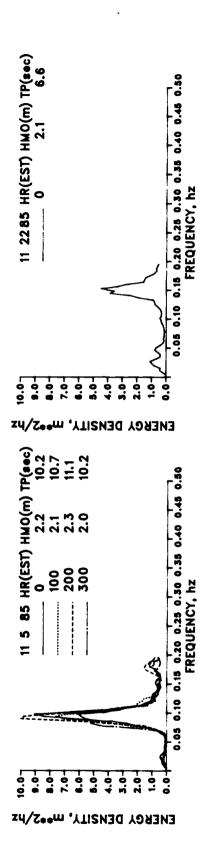


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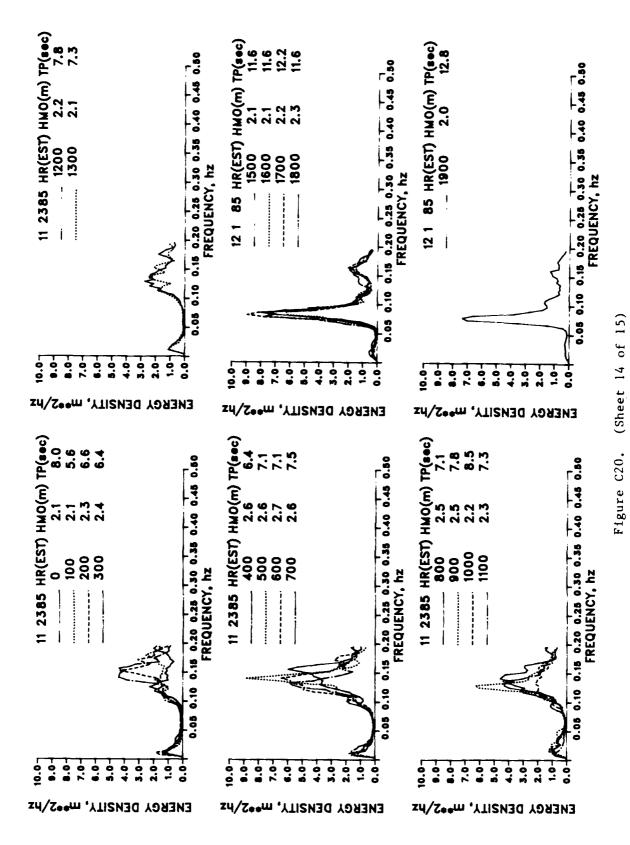
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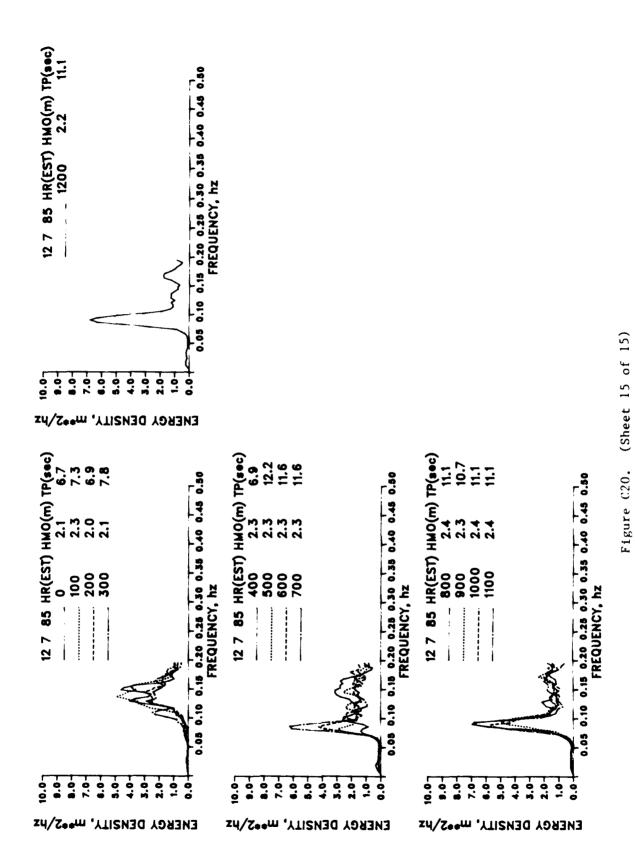
(Sheet 13 of 15)

Figure C20.



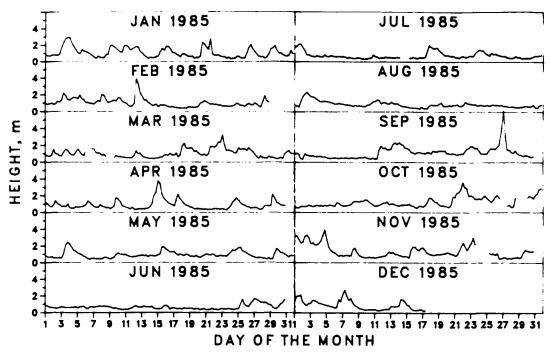
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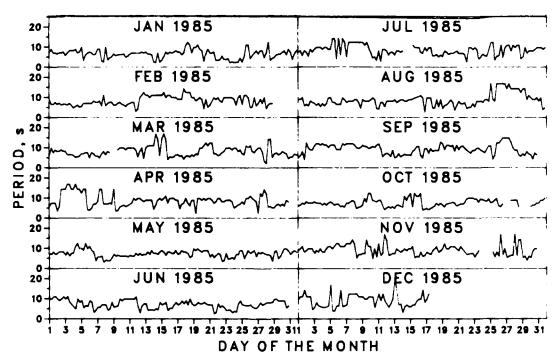


Contract Con

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a. Wave height



b. Wave period

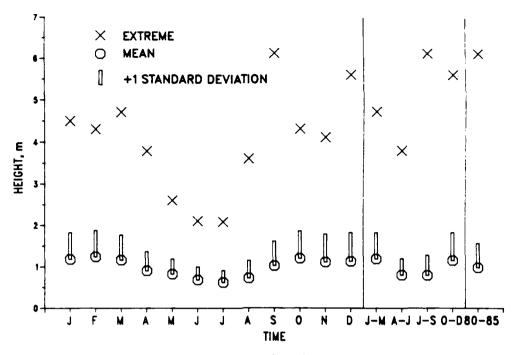
Figure C21. Time-history of  $H_{mo}$  and  $T_{p}$  for Gage 630

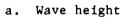
Table C12

1985 Mean, Standard Deviation, and Extreme H and T for Gage 630

	MEAN HEIGHT	STD.DEV. HEIGHT	MEAN PERIOD	STD.DEV. PERIOD	EXT. HEIGHT		NUMBER
MONTH	(M)	(M)	(SEC)	(SEC)	(M)	DATE	OBS.
JAN	1.0	0.6	6.4	2.3	2.9	3	120
FEB	1.0	0.5	8.1	2.2	3.9	12	111
MAR	1.0	0.5	8.0	2.7	3.2	23	120
APR	7).9	0.6	8.6	3.1	3.8	15	117
MAY	0.9	0.4	7.2	1.7	2.5	3	124
JUN	0.6	0.3	7.0	2.1	1.7	27	117
JUL	0.7	0.4	8.3	2.6	2.1	1	120
AUG	0.9	0.3	8.5	3.1	2.3	2	121
SEP	1.1	0.7	9.2	2.5	6.1	27	118
OCT	1.2	0.6	7.5	1.9	3.6	22	112
NOV	1.3	0.8	9.0	2.7	3.9	4	110
DEC	0.9	0.6	9.0	3.3	2.7	7	61
JAN-MAR	1.0	0.6	7.5	2.5	3.9	FEB	351
APR-JUN	3.0	0.5	7.6	2.5	3.8	APR	358
JUL-SEP	0.9	0.6	8.7	2.8	6.1	SEP	359
OCT-DEC	1.2	0.7	8.4	2.7	3.9	NOV	283
ANNUAL	1.0	0.6	8.0	2.7	6.1	SEP	1351

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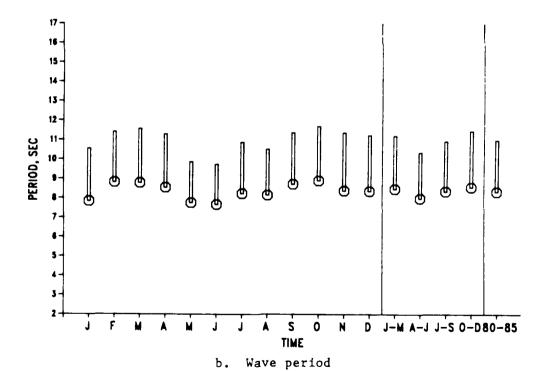


Figure C22. 1985 mean, standard deviation, and extreme H and T for Gage 630  $^{\rm T}$ 

Table C13 1985 Annual Joint Distribution of  $\frac{1}{100}$  versus  $\frac{1}{100}$  for Gage 630

			P	ERCENT	OCCUR	RENCE (	ANNUA	_	GHT AN	D PERI	OD		
EIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0~ 2. 9	3. 0 <del>-</del> 3. 9	4.0 <del>-</del> 4.9	5. 0- 5. 9	6.0 <del>-</del> 6.9	7 0- 7 9	8.0- 8.9	<b>9</b> 0- 9 9	10 0- 11 9	12 0-	14 0- 9 15 9	16 0- Longer	
0 00 - 0 49	89	37	37	89	155	111	407	311	215	67	148		1000
0 50 - 0 99	81	244	252	548	659	496	1066	563	444	207	252	7	4819
1 00 - 1 49		15	163	400	385	192	326	237	141	7	67		1933
1.50 - 1.99		•••	22	274	333	104	111	59	44		30		977
2.00 - 2.49				74	74	74	96	30	7	15	15		385
2 50 - 2 99						22	37	15	55		7		103
3 00 - 3 49	·		•				7	44	15	7			73
3 50 - 3 99							7	15	7	7			36
4 00 - 4 49	•				,		•	• •	•				0
4 50 - 4 99			,										ō
5.00 - CREATER										7			7
TOTAL	170	296	474	1385	1606	999	2057	1274	895	317	519	7	

Table C14

1985 Seasonal Joint Distribution of H versus T for Gage 630

		PERCENT DCCU	SEASONAL JAN-MAR RRENCE(X100) OF HEIGHT	AND PERIOD	
HEIGHT (METERS)			PERIOD (SECONDS)		TOTAL
		0- 5 0- 6 0- 4 9 5 9 6	7 0 - 8 0 - 9 0 - 10 0 9 7 9 8 9 9 9 11		
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49	2	85 114 28 427 655 28 484 798 28 456 655 85 85	313 57 144 513 627 855 456 199 313 199 11- 114 28 28 5 57 85 28 28 85	6 28 171 4 7 28	1279 4444 2335 1366 368 113
3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER TOTAL	398 370 4	84 1537 2307	28 911 1451 1223 79	7 170 341 0	28 0 0

(Continued)

## Table C14 (Concluded)

						SEASO	NAL A	PR-JUN					
			PE	ERCENT	OCCUR			OF HEI	GHT AND	PERI	ac		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1.0-	3. 0-	4 0-	5 0-	6.0-	7 0-	8.0-	9 0-	10 0-	12 0-	14 0-	16 0-	
	2. 9	3. 9	4 9	5. 9								LONGER	
0.00 - 0.49	84	84	84	140	307	279	754	475	28	84	56		2375
0 50 - 0.99	84	391	335	866	894	503	1313	447	196	251	140		5420
1.00 - 1.49 1.50 - 1.99			112 28	279 84	307 168	168 56	307 140	196	28	28	58		1425 504
2.00 - 2.49			20	28	56	56	58	28	58				224
2. 50 - 2. 99													0
3.00 - 3.49 3.50 - 3.99							28	28					28 28
4 00 - 4 49			•				26						0
4 50 - 4 99													ō
5.00 - GREATER	1												0
TOTAL	168	475	559	1397	1732	1062	2570	1174	280	363	224	0	
						SEASO	NAL.	JUL-SEF	,				
			ρ	ERCENT	r occu	RRENCE	X100)	OF HEI	GHT AN	D PER	מם		
HEIGHT (METERS)						PER	OD (SE	CONDS)					TOTAL
	1.0-	3.0-	4 0-	5 0-	6 0-	7 0-	8 0-	9 0-	10.0-	12 0-	14 0-	16 0-	
	2. 9		-									LONGER	
0.00 - 0.49		20	•				24.7	446	505		354		2007
0 50 - 0 99	84	28 84	56 251	56 362	111 418	111 334	362 1504	r.41	585 557	334	251 334		2006 <b>490</b> 3
1.00 - 1 49		28	167	362	167	167	390	279	279		56		1895
1 50 - 1 99			28	167	553	111	139	56			56		780
2.00 - 2.49 2.50 - 2.99				111	84	56	56			28			33 <b>5</b> 0
3 00 - 3 49										28			28
3 50 - 3 99										28			28
4.00 - 4.49 4.50 - 4.99													0
5 00 - GREATER										28			28
TOTAL	84	:40	502	1058	1003	779	2451	1422	1421	446	697	0	
			٩	ERCENT	r accur			OF HEI		D PERI	OD.		
HEIGHT (METERS)						PERI	00 (SE	CONDS					TOTAL
	4.4					- 0		a 0-	10.0		14.0-	14 0-	
	1 0-	3.0- 3.9	4 0-	5 0- 5 5.9					10 0-		9 15 9	LONGER	
0 00 - 0 49				71	71	35	141	247	71	35	141		812
0 50 - 0 99		141	177	530	671	671	742		601	212	399	35	4416
1 00 - 1 49 1 50 - 1 99		35	141	495 424	247 283	247 141	283 141		177 196		212 71		2120 1343
2 00 - 2 49				71	71	141	247		. 90	35	35		671
2 50 - 2 99				•	. •	71	71	71	106		35		354
3 00 - 3 49							35	141 35	35				211 70
3 50 - 3 99 4 00 - 4 49								33	35				70
4 50 - 4 99													٥
5 00 - GREATER	_		<u>.</u> . =				4					26	0
TOTAL	0	176	318	1591	1343	1306	1660	1272	1131	282	883	35	

Contra material de la compacta del la compacta de la compacta del la compacta de la compacta del la compacta de la compacta de

Table C15

1985 Monthly Joint Distribution of H Versus T for Gage 630

			PE	RCENT	OCCUR		100) (		HT AND	PERIO	D		
HEIGHT (METERS)						PERIO	D(SEC	NDS)					TOTAL
	1.0 <del>-</del> 2.9	3. 0- 3. 9	4. 0- 4. 9	5. 0- 5. 9	6 0- 6. 9	7. 0- 7. 9		9 0- 9 9	10 0- 11 9			16 0- LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99	667 333	83 750	417 167 83	167 417 167 500	83 917 833 667 250	500 250 333 83	333 500 167 167 250	83 167 83	250 167		83 83		1749 4251 1667 1583 417 333
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER TOTAL	1000	833	667	1251	2750	1166	1417	333	417	o	166	0	0 0 0 0
			PI	ERCENT	BCCUR		NTH FE X100)		GHT ANI	D PERIO	סכ		
HEIGHT (METERS)						PERI	OD(SEC	ONDS)					TOTAL
	1.0- 2.9	3. 0- 3. 9	4.0-	5.0- 5.9	6.0 <del>-</del> 6.9	70- 79	89	9 0- 9 9	10 0- 11 9			16 0- LONGER	. •
0.00 - 0 49 0.50 - 0.99 1.00 - 1 49 1.50 - 1.99	<del>9</del> 0	90	180 180	270 811 360	631 901 541	541 270	450 631 180	1622	901 270 90	90	270 90		810 5046 2702 991
2 00 - 2.49 2 50 - 2.99 3 00 - 3.49 3 50 - 3.99 4 00 - 4.49 4 50 - 4.99			•	180				90	90		90		270 0 90 90 0
5 00 - GREATER TOTAL	90	90	360	1621	2073	811	1261	1802	1351	90	450	o	ŏ
			P	ERCENT	OCCUR		NTH MA X100)		GHT AN	D PERI	<b>00</b>		
HEIGHT (METERS)						PERI	OD(SEC	ONDS)					TOTAL
	1 0- 2.9	3. 0- 3. 9	4. 0 <del>-</del> 4. 4						10 0-			16 0- 7 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99	83	167	333 83	83 583 500 500 83	250 417 667 750	500 83 167	167 750 583 83 83	83 833 417 83 83	167 333 83 83	333 83	83 333		1249 4082 2666 1499 416
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER	_		•					83					83 0 0 0
TOTAL	63	167	416	1749	2084	750	1666	1582	666	416	4:5	0	

(Continued)

(Sheet 1 of 4)

## Table C15 (Continued)

							NTH AF						
			ρ	ERCENT	OCCUF	RRENCE	X100)	OF HEI	GHT AN	D PERI	OD		
HEIGHT (METERS)						PER	OD(SE	CONDS)					TOTAL
	1.0~ 2.9		4 0- 4 4 9	5 0- 5.9		70-					14 0- 9 15 9	16 0~ LONGER	
0.00 - 0 49 0 50 - 0 99 1.00 - 1 49 1.50 - 1 99	171	427	85 171	684 342	427 513	85 427 85	1197 940 85	855 342 256	85 85	256 769 85	171 342		2649 4699 1537 513
2.00 - 2.49 2.50 - 2.99			•	171	171 171	171	85	85	85				426 0
3 00 - 3 49 3 50 - 3 99							85	85					95 85
4 00 - 4 49 4 50 - 4 99													0
5.00 - GREATER TOTAL	171	427	256	1197	1282	768	2392	1623	255	1110	513	0	ŏ
TOTAL	1/1	42/	236	1177	1202	/00	2372	1023	233	1110	513	U	
			q	ERCENT	OCCUR		NTH MA	OF HEI	GHT AN	D PERI	סכ		
HEIGHT (METERS)						PERI	OD (SEC	(SQNO					TOTAL
	1 U~ 2.9										14 0-	16 0- LONGER	
0.00 - 0.49		_	• •	_		7. 7		, , ,	11 7	13	7 13 7	LUNGER	0/0
0.50 - 0.99	81	81 484	161	242 968	1290	887	323	242	81		81		969 6210
1 00 - 1 49 1 50 - 1 99			161 81	242 81	81 353	323	484 323	323	81		81		1937 6 <b>4</b> 7
2 00 - 2 49 2 50 - 2 99				81		161							242 0
3 00 - 3 49													0
3 50 - 3 99 4 00 - 4 49													0
4 50 - 4 99 5 00 - GREATER													0
TOTAL	81	565	403	1614	1936	1371	3146	565	162	0	162	0	· ·
			PI	ERCENT	OCCUR		NTH JU X100)	N OF HEIG	HT AN	D PERIO	ac		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0- 2. 9	3. 0- 3. 9	4. 0- 4. 9	5 0- 5 9	6 0- 6.9						14 0- 15 9	16 0- Longer	
0 00 - 0 49 0 50 - 0 99	171 85	171 256	256 769	171 940	684 940	769 171	769 940	598 769	427				3589 5 <b>29</b> 7
1 00 - 1 49 1 50 - 1 99				256	85	85	342						768
2.00 - 2.49					256		85						<b>341</b> 0
2.50 - 2.99 3.00 - 3.49													0
3 50 - 3.99													0
4 00 - 4 49 4 50 - 4 99													0
5 00 - GREATER	25.	457				4000	2424			_	_		ŏ
TOTAL	256	427	1025	1367	1965	1025	2136	1367	427	0	O	0	

(Continued)

(Sheet 2 of 4)

## Table C15 (Continued)

			ρ	ERCEN	T DCCUF		DNTH J		IGHT A	ND PER	100		
HEIGHT (METERS)						PER	IOD(SE	CONDS)					TOTAL
	1 0- 2.9	3.0- 3.9	4. 0- 4. 9								- 14 0- 9 15	16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49	167	83 83	167 167 167	167 500 333 333 83	333 417 83 83	333 333 167	1000 917 83 83 83	1250 83	333	333	567 333		3500 4833 832 666 166
3 50 - 3 99 4 00 - 4 49 4 50 - 4 99													0 0 0
5.00 - GREATER TOTAL	167	166	501	1416	916	833	2166	1833	666	333	1000	0	0
			PĮ	ERCENT	DCCUR		NTH AU		IGHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	(SDNDS)					TOTAL
	1. 0 <del>-</del> 2. 9	3. 0- 3. 9	4.0- 4.9	5 0- 5. 9							14 0- 9 15 9	16 0- LONGER	
0.00 - 0.49 0.50 - 0.99 1.00 - 1.49 1.50 - 1.99	83	165	496 165	413 413 83	496 248 248	579 331	83 3140 <b>24</b> 8	496 331 248	83 83	661	651		662 7108 1453 331
2.00 - 2.49 2.50 - 2.99 3.00 - 3.49 3.50 - 3.99				83		83	83						249 0 0 0
4.00 - 4.49 4.50 - 4.99													0
5 00 - GREATER TOTAL	63	165	661	992	992	993	3554	1075	166	661	661	0	0
							ITH SEI						
			PE	RCENT	OCCURR				GHT AND	PEPI(	סכ		
HEIGHT (METERS)	1.0-	3.0 4 3.9	1.0− : 4.9	5.0- 5.9	6.0- 6.9			9 0-			14 0- 1	16 0- LONGER	TOTAL
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49		85	85 169 85	.69 339 85 169	339 169 339 254	85 169 169 85	424 847 339	339	1356 1271 847	85	95 169 169		1865 2712 3217 1355 593
2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99										85 85			ა 85 85 ი ა
5 00 + GREATER TOTAL	0	85	339	762	1101	508	1610	1355	3474	95 340	423	0	95

(Continued)

(Sheet 3 of 4)

## Table C15 (Concluded)

	MONTH GGT PERCENT DCCURRENCE(X100) OF HEIGHT AND PERIOD	
HEIGHT (METERS)	PERIOD (SECONDS)	TOTAL
	1 0- 3.0- 4 0- 5 0- 6 0- 7 0- 8 0- 9 0- 10 0- 12 0- 14 0- 16 0- 2.9 3 9 4 9 5 9 6 9 7 9 8 9 9 9 11 9 13 9 15 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99	89 357 625 804 1339 1250 357 268 268 625 268 268 268 179 89 446 446 268 179 357 89 89 89 89 89 89 89 89	0 5089 1965 1874 535 356 89 89
5 00 - GREATER TOTAL	0 89 625 1785 1518 2232 1875 803 624 0 446 0	0
	MONTH NOV PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD	
HEIGHT (METERS)	PERIOD (SECONDS)	TOTAL
	1 0- 3 0- 4 0- 5 0- 6 0- 7 0- 8 0- 9 0- 10 0- 12 0- 14 0- 16 0- 2 9 3 9 4 4 5 9 6 9 7 9 8 9 9 9 11 9 13 9 15 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49	182 91 91 91 636 364 273 636 636 818 455 636 91 182 182 364 364 455 273 273 455 182 91 182 91 91 91 91 545 91 91 91 91 91 182	364 4545 2184 1001 909 455
3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER TOTAL	91 364 91 0 91 91 1364 1001 910 1909 1819 1364 455 1000 0	455 91 0 0
	MONTH DEC	
	PERCENT OCCURIENCE (X100) OF HEIGHT AND PERIOD	
HEIGHT (METERS)	PERIOD(SECONES)  1 0- 3.0- 4.0- 5.0- 6.0- 7.0- 8.0- 9.0- 10.0- 12.0- 14.0- 16.0- 2.9 3.9 4.9 5.9 6.9 7.9 8.9 9.9 11.9 13.9 15.9 LONGER	TOTAL
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99	328 164 656 984 328 164 492 492 164 984 164 656 164 164 164 164 820 328 164 328 328 328 164 328 164 164 164 164	3116 2952 2296 984 492 164
4 00 - 4 49 4 30 - 4 99 5 00 - GREATER TOTAL	0 492 164 1640 1640 328 820 1148 1640 492 1476 164	0

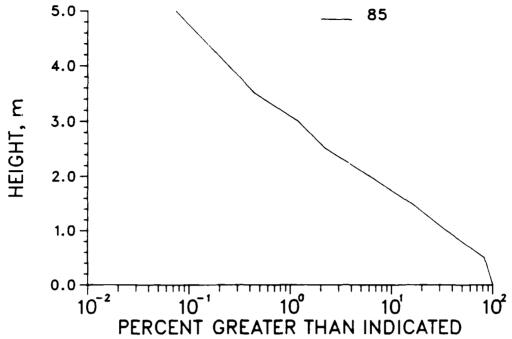


Figure C23. 1985 annual cumulative distribution of  $\frac{H_{\text{mo}}}{\text{mo}}$  for Gage 630

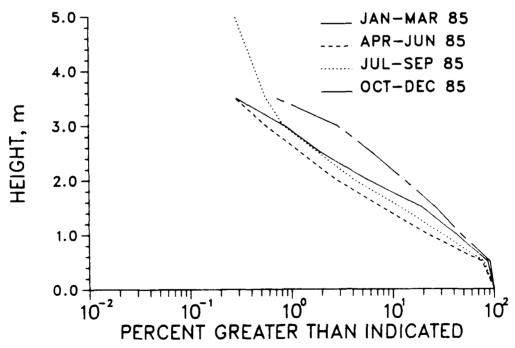


Figure C24. 1985 seasonal cumulative distribution of  $\rm\,H_{mo}$  for Gage 630

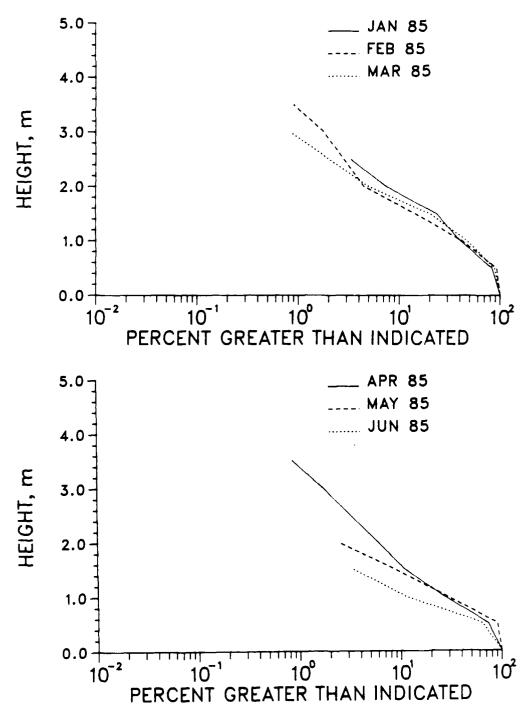
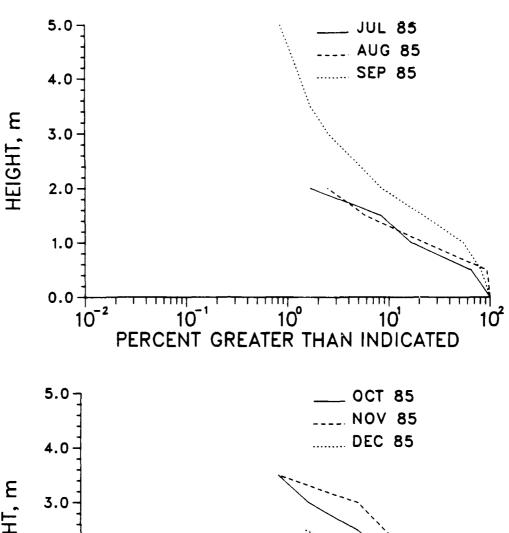


Figure C25. 1985 monthly cumulative distribution of  $H_{mo}$  for Gage 630 (Continued)



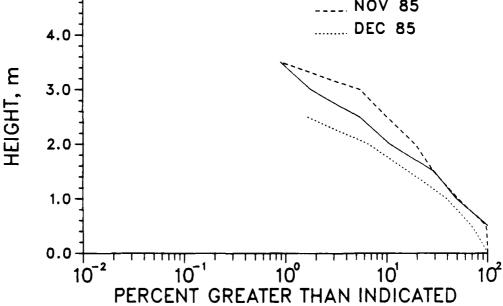


Figure C25. (Concluded)

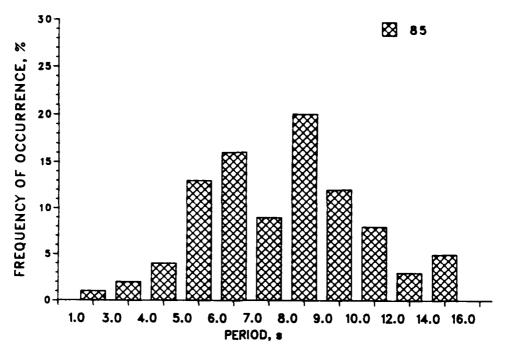


Figure C26. 1985 annual distribution of  $T_p$  for Gage 630

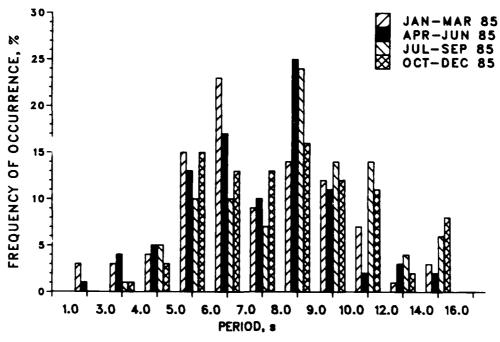


Figure C27. 1985 seasonal distribution of  $T_p$  for Gage 630

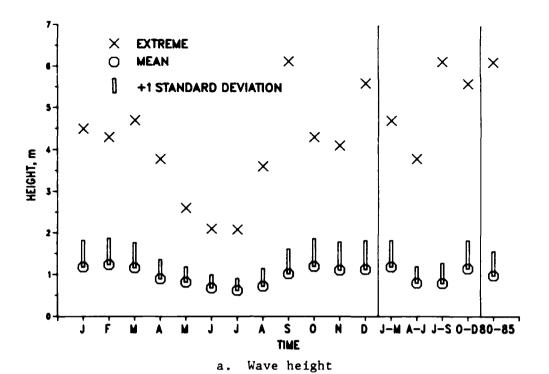
recorded beereses recorded becauses presented beeres.

Table C16

1985 Persistence of H for Gage 630

Height				 			Con	secu	Consecutive Day(s) or Longer	Jay (s	or (	Longe	بد						
<b>6</b>	-1	2	3	4	21	١٩	-1	∞ı	6	21	=	21	21	17	2	19	1	81	19+
0.5	21	16	15				13		11		10		6						
1.0	51	38	25	15	10	6	9	5	٣		2							7	
1.5	45	27	11	7	3		2												
2.0	23	10	2																
2.5	11	2	-																
3.0	7	2																	
3,5	5 1	7																	
+0.4	-																		

MONTH	MEAN HEIGHT (M)	STD.DEV. HEIGHT (M)	MEAN PERIOD (SEC)	STD.DEV. PERIOD (SEC)	EXT. HEIGHT (M)	DATE	NUMBER OBS.
JAN	1.2	0.6	7.8	2.7	4.5	83	639
FEB	1.2	0.6	8.8	2.6	4.3	83	571
MAR	1.1	0.6	8.7	2.8	4.7	83	641
APR	0.9	0.5	8.5	2.8	3.8	85	621
MAY	0.8	0.4	7.7	2.1	2.6	81	650
JUN	0.7	0.3	7.6	2.1	2.1	81	595
JUL	0.6	0.3	8.2	2.6	2.1	85	613
AUG	0.7	0.4	8.1	2.4	3.6	81	592
SEP	1.0	0.6	8.7	2.7	6.1	85	624
OCT	1.2	0.7	8.9	2.8	4.3	82	706
NOV	1.1	0.7	8.3	3.0	4.1	81	531
DEC	1.1	0.7	8.3	2.9	5.6	80	591
JAN-MAR	1.2	0.6	8.4	2.8	4.7	MAR 1983	1851
APR-JUN	0.8	0.4	7.9	2.4	3.8	APR 1985	1866
JUL-SEP	0.8	0.5	8.3	2.6	6.1	SEP 1985	1829
OCT-DEC	1.1	0.7	8.5	2.9	5.6	DEC 1980	1828
ANNUAL	1.0	0.6	8.3	2.7	6.1	SEP 1985	7374



construction approach sometimes and the second seco

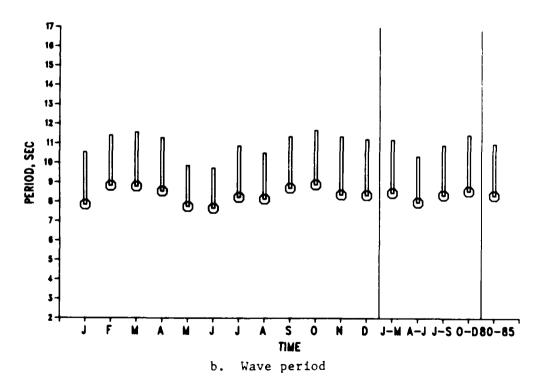


Figure C28. 1980 through 1985 mean, standard deviation, and extreme  $H_{mo}$  and  $T_{p}$  for Gage 630

Table C18

1980 Through 1985 Annual Joint Distribution of

H versus T for Gage 630

							ANNUA						
			٢	ERCENT	OCCUR	RENCE (	X100)	OF HEI	GHT AND	D PERI	סס		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTA
	1.0-	3. 0-	4 0-	3. 0-	6. 0-	7. 0-	8.0~	9 0-	10 0-	12 0-	14 0-	16 0-	
	2. 9	3. 9	4. 9	5 9	6. 9	7 9	8 9	9 9	11 9	13.4	7 15 9	LONGER	
0.00 - 0.49	22	15	27	58	96	117	271	320	255	90	153	5	1429
0.50 - 0.99	30	114	264	452	589	510	658	697	926	179	229	23	4671
1. 00 - 1. 49		7	102	344	469	292	209	198	414	50	157	5	2247
1. 50 - 1. 99			7	119	281	123	66	62	137	45	96	7	942
2 00 - 2 49				56	76	85	45	43	79	35	49	3	441
2.50 - 2.99					5	34	18	19	34	11	28		149
3 00 - 3 49						3	12	15	19	5	11		65
3.50 - 3.99							1	9	14	7	4		35
4.00 - 4.49							1		8	1	1		11
4, 50 - 4, 99									3				3
5.00 - GREATER										3	1		4
TOTAL	52	136	400	998	1516	1164	1281	1363	1889	426	729	43	

Table C19

1980 Through 1985 Seasonal Joint Distribution of

H versus T for Gage 630

			þ	ERCENT	OCCUR	SEASO RENCE(	-	AN-MAR OF HEI		D PERI	סכ		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1 0- 2.9	3. 0- 3. 9	4. 0 <del>-</del> 4. 9	5. 0- 5. 9	6.0-	7 0 <del>-</del> 7 9	8 0- 8 9	9 0- 9 9	10 0-		14 0- 9 15 9	16 0- Longer	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99	54 27	5 135 5	222 146 11	54 373 465 211	54 438 583 384	5 324 297 200	108 308 222 65	43 546 227 92	157 1021 692 259	49 124 76 86	102 259 276 140	5	642 3782 2989 1448
2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49				43	103	108	59 27 16	59 16 16 16	135 76 49 11 22	70 32 11	76 11 5	5	674 287 103 32 32
4 50 - 4 99 5 00 - GREATER TOTAL	81	145	379	1146	1573	983	810	1015	11	448	967	10	0

(Continued)

## Table C19 (Concluded)

Research Market No. 12 (1992) The Property of the Control of the C

						65.450	A/A/ A	20 44					
			PE	ERCENT	OCCUR			OF HEI	GHT AN	D PERI	ao		
HEIGHT (METERS)						PERI	OD(SEC	ONDS)					TOTAL
	1. 0= 2. 9	3. 0- 3. 9	4. 0- 4. 9	5. 0- 5. 9				90-			14 0- 9 15 9	16 0- P LONGER	
0.00 - 0.49	16	21	38	70	150	204	429	418	209	38	54		1647
0.50 - 0.99 1.00 - 1.49	54	166 5	397 96	627 198	648 327	670 252	1024 247	954 225	949 343	155 32	166 107		5810 1832
1 50 - 1 99		•	11	54	118	75	70	35	107	11	54		532
2.00 - 2.49 2.50 - 2.99				16	21	32 5	16 11	38	16	5	5		149
3.00 - 3.49								5		5			21 5
3. 50 - 3. 99							5						5
4.00 - 4.49 4.50 - 4.99		٠											0
5.00 - GREATER								,				•	ŏ
TOTAL	70	192	542	965	1264	1238	1802	1672	1624	246	386	0	
			PI	ERCENT	OCCUR			UL-SEP OF HEI	IGHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	00 ( SE 0	ONDS)					TOTAL
	1 0- 2.9		4. 0- 4. 9	5. 0- 5. 9	6.0- 6.9						14 0- 9 15	16 0- 7 LONGER	
0.00 - 0.49	5	22	44	77	153	202	448	662	426	164	191	16	2410
0.50 - 0.99	16	71	208	421	678	651	935	864	804	252	191	33	5124 1651
1.00 - 1.49 1 50 - 1 99		11	60 5	312	372 159	279 82	202 49	137 60	175 27	27 <b>5</b>	71 <b>49</b>	5	496
2.00 - 2.49		•		27	38	16	22	16	44	16	16		195
2.50 - 2.99 3.00 - 3.49					5	16	16	5 5	5 11	5	5 5		52 31
3.50 - 3.99								5	5	5	5		20
4.00 - 4.49								•					0
4.50 - 4.99 5.00 - GREATER										5			5
TOTAL	21	104	317	897	1405	1251	1672	1754	1497	479	533	54	
HEIGHT (METERS)			PE	RCENT	DCCUR	RENCE (	NAL DIXIOO)	OF HEI	CHT ANI	) PERI	סכ		TOTAL
	1 0- 2.9	3. 0- 3. 9	4. 0- 4. 9	5. 0- 5. 9	6 0- 6 9	7 0-	8 0-	9 0-	10 0-		14 0- 9 15 9	16 0- LONGER	
0 00 - 0 49	11	11	27	33	27	55	98	159	219	109	266	5	1022
0 50 - 0 99 1 00 - 1 49	22	82 5	230 104	383 405	591	394	361	421	930	186	301	55	3956
1 50 - 1 99		J		148	596 465	339 137	164 82	202 66	443 153	<b>66</b> 77	175 142	16 27	2515 1297
2 00 - 2 49				16	142	186	82	60	120	49	85	5	742
2 50 - 2 99 3 00 - 3 49					5	66 5	1 <i>6</i> 33	55 33	55 16	5 5	33 27		235 119
3 50 - 3 99						,	33	16	38	55	5		81
4 00 - 4 49 4 50 - 4 99									11	5			16
5.00 - GREATER										5	5		0
TOTAL	33	98	361	985	1826	1182	936	1012	1985	529	1038	108	

Table C20

## 1980 Through 1985 Monthly Joint Distribution of

H versus T for Gage 630

			ن د	EDCENT	Occupi		NTH JAR		GHT ANI	) DEBI	on.		
HEIGHT (METERS)			r.	CNCENT	BCCOR				ALL WAT	) PERI	טט		
HEIGH! (HE!EKS)						PERI	OD (SEC	JNUS)					TOTAL
	1.0 <del>-</del> 2.9	3. 0 <del>-</del> 3. 9	4 0- 4. 4						10 0- 11 9		14 0- 9 15 9	16 0- LONGER	
0 00 - 0 49	141	16	,	141	63		156	78	266	31	47		939
0.50 - 0.99	63	266	266	438	423	344	203	344	986	110	282		3725
1 00 - 1 49 1 50 - 1 99			141 31	563 235	642 548	266 313	63 47	110 78	610 282	16	94 63		2489 1613
2.00 - 2.49			٥.	16	156	235	78	31	172	63	31	16	798
2.50 - 2.99						94	78	31	47	31	63		344
3 00 - 3 49 3 50 - 3 99							31		31				62
4.00 - 4.49			•						16				0 16
4 50 - 4.99									16				16
5 00 - GREATER													0
TOTAL	204	282	438	1393	1832	1252	656	672	2426	251	580	16	
			PE	RCENT	OCCUR		NTH FEE (100) (		SHT AND	PERIO	סכ		
HEIGHT (METERS)						PERIO	DO (SECO	INDS)					TOTAL
	1 0- 2 9	3. 0- 3. 9	4 0- 4. 9	5 0- 5.9		7 0- 7 9		9 0- 9 9			14 0- 9 15 9	16 0- LONGER	
0 00 - 0 49					35		105		53	18	175		386
0.50 - 0.99	18	70	105	263	455	175	333	665	1278	18	210	18	3608
1 00 - 1 49 1 50 - 1 99		18	105	473	613	228	333	350	718	140	245		3553
2.00 - 2.49			•	175 105	333 105	210 35	105 35	123 88	228 140	105 88	175 158		1 <b>454</b> 754
2.50 - 2.99				103	103	53	33	30	175	35	105		369
3.00 - 3 49			,					18	53	18	35		124
3 50 - 3.99								18	18				36
4 00 - 4 49 4 50 - 4 99									53				53 0
5.00 - GREATER							•						ŏ
TOTAL	18	88	210	1016	1541	701	911	1262	2716	422	1103	18	
HEIGHT(METERS)			1	PERCEN	T OCCU	RRENCE	ONTH M/ (X100)	OF HE	IGHT AN	ND PER	IOD		
													TOTAL
	1.0- 2.9	3.0 <del>-</del> 7 3.9	4 0-	5.0 <del>-</del> 9 5.1	6 0- 9 6.4	70-	9 8	90-	10 0- 9 11 9	- 12 O	- 14 0- 9 15	16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99	16			16	62	16	62	47	172	94	<b>⊋4</b>		579
1.00 - 1.49		62	281 187	406 359	437 499	437 390	390 281	640 234	827	234	291		3995
1.50 - 1 99			40/	218	265	78		234 78	749 265	94 140	484 197		3277 1279
2.00 - 2.49				16	47	47	62	62	94	62	94		484
2, 50 - 2, 99 3 00 - 3 49					31		_	16	16	31	52		156
3 50 - 3 99							16	31	62	16			125
4 00 - 4 49							16	31	16		16		63
4 50 - 4 99									16		16		32 16
5 00 - GREATER				_									.0
TOTAL	16	65	468	1015	1341	968	874	1139	2217	671	1234	0	

(Continued)

(Sheet 1 of 4)

## MONTH APR PERCENT DCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)						PERI	OD (SEC	(SDMD					TOTAL
	1. 0- 2. 9	3. 0~ 3. 9	4 0- 4 9	5 0- 5.9	6 0- 6. 9	7 0-		90-			14 0- 9 15 9	16 0- Longer	
0 00 - 0 49		16	32	32	48	16	419	306	177	81	113		1240
0 50 - 0 99	129	177	258	467	531	531	628	580	1304	354	354		5313
1 00 - 1 49		16	129	225	386	354	145	322	483	97	161		2318
1 50 - 1 99				97	161	129	48	91	177	16	129		838
2 00 - 2 49				16	32		32	81	48				209
2 50 - 2 99						16	32						48
3.00 - 3.49								16					16
3.50 - 3.99							16						16
4 00 - 4 49													0
4 50 - 4 99													0
5.00 - GREATER													0
TOTAL	129	209	419	837	1159	1046	1320	1386	2189	548	757	0	
						M	א אזאכ	<b>A</b> Y					

### MONTH MAY PERCENT OCCURRENCE (X100) OF HEIGHT AND PERIOD

HETOHI (HETEKS)						PERI	ODISEC	UNDSI					TOTAL
	1 0- 2. 9	3.0- 4	4. 0~ 4. 4								14 (- ) 9 15 9	LONGER	
0 00 - 0 49	15	15	15	92	108	185	246	262	200	15	31		1184
0 50 - 0.99		185	462	692	646	800	1277	1246	769	15	123		6215
1 00 ~ 1.49			108	215	400	215	323	215	400		7-		1953
1 50 ~ 1 99			15	46	108	31	138		77	15	31		461
2.00 - 2.49				31	15	77		15		15	15		168
2 50 - 2 99										15			15
3 00 - 3 49													0
3 50 - 3.99													0
4 00 - 4 49													ō
4 50 - 4 99													ō
5.00 - GREATER													ō
TOTAL	15	200	600	1076	1277	1308	1984	1738	1446	75	277	0	·

## MONTH JUN PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)						PERI	OD(SEC	ONDS)					TOTAL
	1 0- 2.		4. 0 <del>-</del> 4. 9	5 0- 5. 9	6 0-	7 O- 7 9	8 0-	9 0-			14 0- 1	6 0- LONGER	
0 00 - 0.49	34	34	67	84	303	420	639	706	252	17	1 -		2573
0 50 - 0 99	34	134	471	723	773	672	1160	1025	773	101	17		5883
1 00 - 1 49			50	151	185	185	269	134	134		94		1192
1 50 - 1 99			17	17	84	67	17	17	67		.5-		586
2 00 - 2 49			•		17	17	17	17	•				68
2 50 - 2 99					•	• •	• •	• '					0
3 00 - 3 49													ŏ
3 50 - 3 99													ő
4 00 - 4 49													ŏ
4 50 - 4 99													ŏ
5 00 - GREATER													Ö
TOTAL	68	166	605	975	1352	1361	2102	1899	1226	118	118	0	U

(Continued)

(Sheet 2 of 4)

#### Table C20 (Continued)

			PE	RCENT	OCCUR		NTH JU 100)		GHT ANI	D PERI	מס		
HEIGHT (METERS)						PER I	೧೯୯೯೯	(2CNO					TOTAL
	1.0- 2.9	3. 0- 3. 9	4 0- 4 y	5 0- 5 9	6.0- 6.9	7 0- 7 9					14 0- 9 15 9		
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER	16 33	33 114 33	65 228 47	98 457 229 82 16	277 848 245 16	277 669 131 33	783 946 82 49 16	102B 1109 65	408 489	196 326	326 92	33 98	3540 5399 833 180 32 0 0 0
TOTAL	49	180	342	881	1 386	1110	1876	5505	897	522	408	131	
			ΡE	RCENT	DCCURF		NTH AU( X100) (	-	OHT AND	PERI	סכ		
HE: GHT (METERS)						PER I	DD(SEC	ONDS)					TOTAL
	1.0-	3. 0- 3. 9	4 0 <del>-</del> 4. 9	5 0- 5 9	6.0- 6.9	7 0- 7 9	8 0- 8 9	9 0- 9 9	10 0- 11 9	12 0-	14 0- 9 15 9	16 0- LONGER	
0 00 - 0.49 0.50 - 0.99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99	17	17 51 	51 236 51	84 357 236 34 17	169 676 270 135 17 17	321 878 287 68 17	524 1402 118 34 34 17	676 843 68	473 642 51 17 17 17	101	169 253 34 17 17		2585 5777 1081 322 119 68 34 17 0
5.00 - GREATER TOTAL	. 17	68	338	928	1284	1588	2129	1606	1234	321	490	0	0
HEIGHT(METERS)	1 0-	2.0-		ERCENT		PER 1	OD(SEC	OF HEI	GHT AN				TOTAL
	2.9	3 0- 3.9	4 0-	5 9	6 0-	70-	9 8 9				14 C- 9 15	9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER		16 48	16 160 80 16	48 256 465 64 48	16 513 593 321 96	16 417 417 144 32 48	48 481 401 64 16 32	298 641 272 176 48 16	401 1256 465 64 112 16	172 208 80 16 48	90 240 208 112 32 16	16	1137 4230 2997 977 432 96 64 48
TOTAL	0	64	272	8 <b>8</b> t	1539	1074	1042	1457	2340	16 592	704	32	16

(Continued)

(Sheet 3 of 4)

	MONTH OC	T				
PERCENT	DCCURRENCE (X100)	OF	HEIGHT	AND	PERIOD	

HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1 0- 2.9	3 O- 3 9	4 0- 4.9	5.0- 5.9	6. 0- 6. 9	-	8 0- 8.9	90-			14 0- 9 15 9		
0 00 - 0 49	14				14	57	142	127	297	42	156		849
0.50 - 0.99		42	142	293	425	411	510	368	977	198	425	14	3795
1 00 - 1 49			99	538	425	255	113	184	453	127	212		2406
1 50 - 1 99				127	482	99	71	85	184	127	312	57	1544
2 00 - 2 49				14	113	269	57	57	184	57	127	14	892
2.50 - 2.99				-	14	113	28	85	42	14	57		353
3 00 - 3 49						14			14		42		70
3.50 - 3.99								28		28			56
4 00 - 4 49									28				58
4 50 - 4 99													0
5.00 - GREATER													0
TOTAL	14	42	241	962	1473	1218	921	934	2179	593	1331	85	

# MONTH NOV PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)							PERI	OD(SEC	SUNC					TOTAL
	1 0	)- ; ?. <b>9</b>	3.0- 3.9	4. 0- 4. 9	5.0- 5.9	6. 0- 6. 9	7. 0- 7. 9	8 0- 8.9	9. 0- 9. 9			14 Q- 1 7 15 9		
0.00 - 0.49 0.50 - 0.99 1.00 - 1.49 1.50 - 1.99 2.50 - 2.49 3.00 - 3.49 3.50 - 3.99 4.00 - 4.49 4.50 - 4.99	-	9	19 38 19	19 452 75	38 565 245 188 38	56 584 734 301 56	94 527 395 207 75 38	56 339 207 94 169 19 38	169 490 301 38 38 38 94	151 829 471 113 38 75	226 19 94 19 19	207 226 113 19 19 19 19	9 <b>4</b> 56 19	922 4408 2635 1073 452 189 170 132 19
5.00 - GREATER	:	57	76	546	1074	1731	1336	922	1168	1752	528	641	169	0

# MONTH DEC PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)						PER I	OD(SEC	ONDS >					TOTAL
	1 0-	3.0- 3.9	4 0- 4.9	5 0- 5. 9	6 0- 6 9	7 0- 7. 9		9 0- 9 9	10 0- 11 9	12 0- 13	14 0- 9 15 <b>9</b>		
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 99	34	17 169	68 135 135	68 338 389 135	17 795 677 592 254	17 254 389 118 186 34	85 203 186 85 34	186 423 135 68 85 34 17	186 964 406 152 118 51 34 51	203 135 34 68	457 220 186 51 85 17	17 <b>6</b> 9	1321 3738 2537 1201 830 136 136 68
4 50 - 4 99 5 00 - GREATER TOTAL	34	186	338	930	2335	998	661	965	1962	17 <b>45</b> 7	17 1050	85	34

(Sheet 4 of 4)

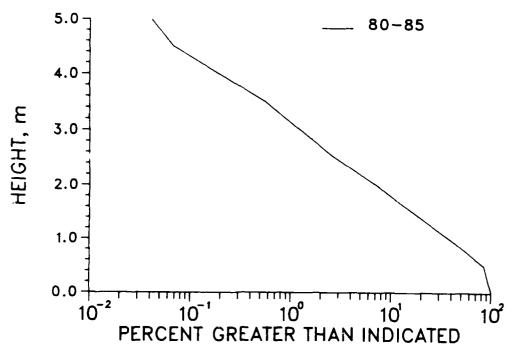


Figure C29. 1980 through 1985 annual cumulative distribution of  $\rm H_{mo}$  for Gage 630

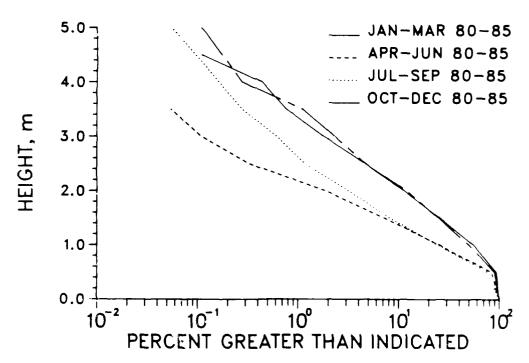


Figure C30. i980 through 1985 seasonal cumulative distribution of  $\rm H_{mo}$  for Gage 630

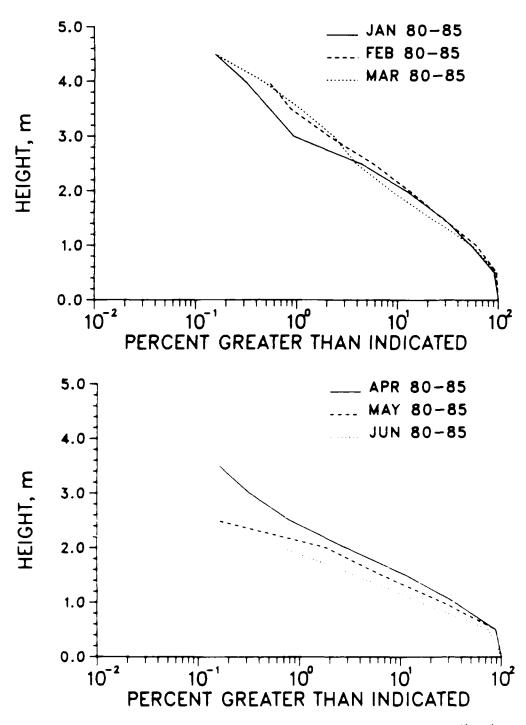
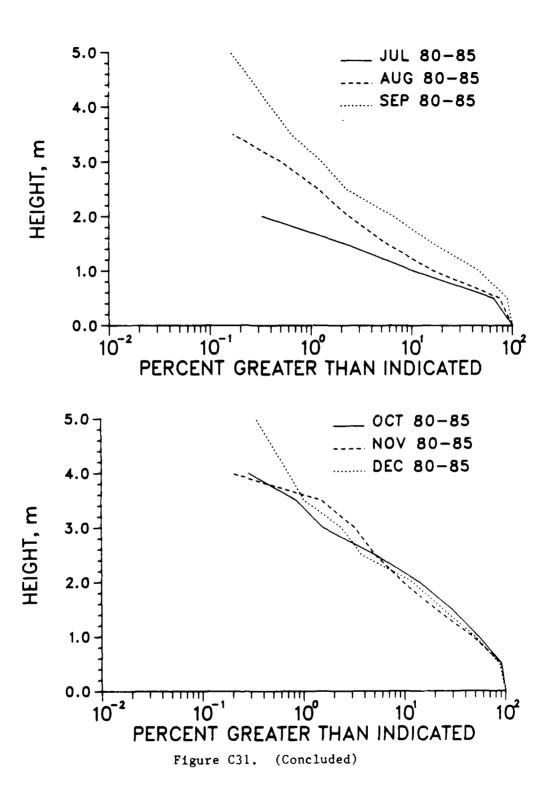


Figure C31. 1980 through 1985 monthly cumulative distribution of H for Gage 630 (Continued)



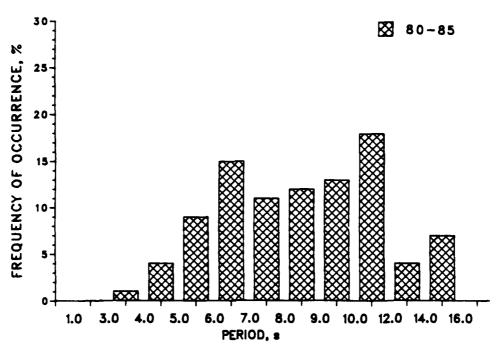


Figure C32. 1980 through 1985 annual distribution of T for Gage 630

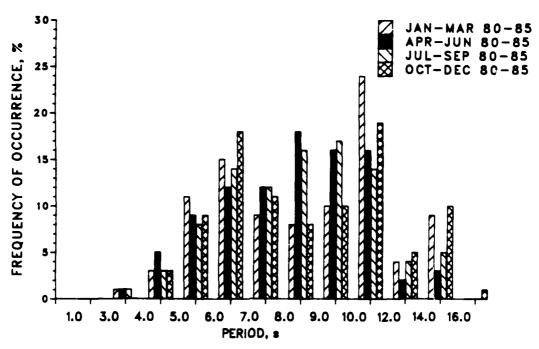


Figure C33. 1980 through 1985 seasonal distribution of  $T_{p}$  for Gage 630

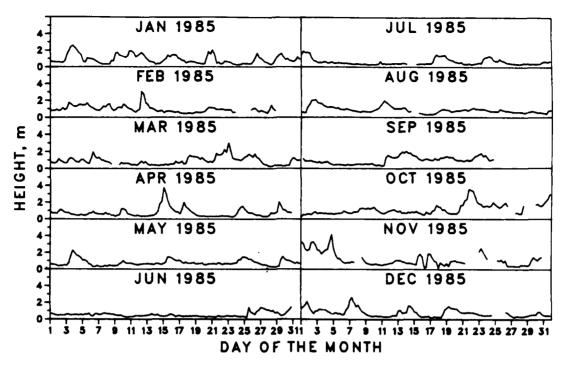
Table C21 1980 Through 1985 Persistence of H for Gage 630

SEED BACKERS PROPERTY DISCUSSION VENEZUALE CONTROL OF THE CONTROL

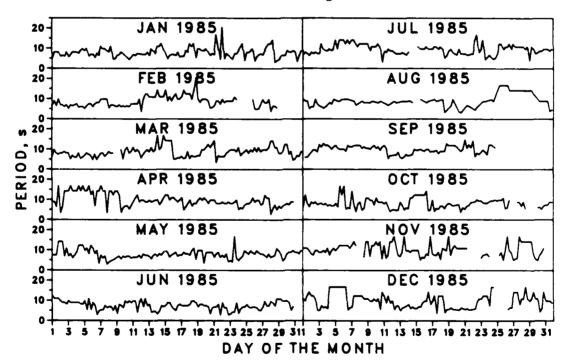
The control of the co

	 						Cons	ecuti	O .	Consecuti Day(s)	or L	or Longer							
	  -	7	اع	4	5	9	7	<b>∞</b> 1	61	2   2		12	13	14	15	16	17	18	19+
	74	20	18				12			10				<b>∞</b>	l		1		
	20	33	25	18	13	10	80				3								
	37	21	11	7	5														
	21	11	9			1													
2.5	Ξ	11 5 2	7																
	2	3																	
	3	5																	
	-																		

ŽŠÝVNO ISKSKKAJO KARRAZINO SKLKKARINO SA SANOVIN KSKKKARIO V CKKKKARINO SPANOVI







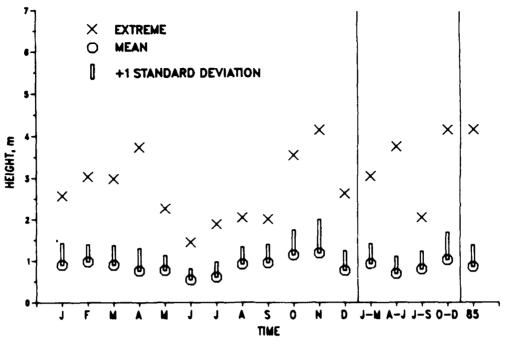
b. Wave period

Figure C34. Time-history of  $\frac{H}{mo}$  and  $\frac{T}{p}$  for Gage 640

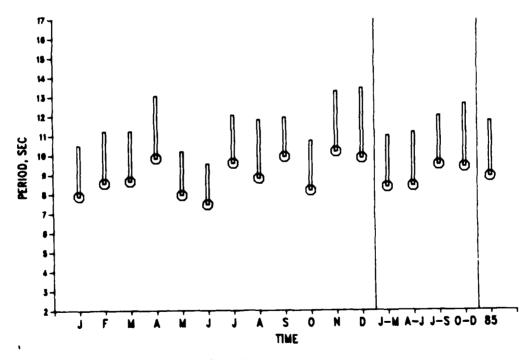
Table C22

1985 Mean, Standard Deviation, and Extreme H and T for Gage 640

MONTH	MEAN HEIGHT (M)	STD.DEV. HEIGHT (M)	MEAN PERIOD (SEC)	STD.DEV. PERIOD (SEC)	EXT. HEIGHT	DATE	NUMBER OBS.
JAN	0.9	0.5	7.8	2.6	2.6	3	114
FEB	1.0	0.4	8.5	2.7	3.0	12	103
MAR	0.9	0.5	8.6	2.6	3.0	23	121
APR	0.8	0.5	9.8	3.2	3.7	15	117
MAY	0.8	0.4	7.9	2.3	2.3	3	124
JUN	0.5	0.3	7.4	2.1	1.4	3 C	118
JUL	0.6	0.4	9.5	2.5	1.9	1	120
AUG	0.9	0.4	8.7	3.0	2.0	2	71
SEP	0.9	C . 4	9.8	2.0	2.0	14	93
OCT	1.1	0.6	8.1	2.6	3.5	21	111
NOV	1.2	0.8	10.1	3.1	4.1	4	102
DEC	0.8	0.5	9.8	3.6	2.6	7	113
JAN-MAR	0.9	0.5	8.3	2.6	3.0	FEB	338
APR-JUN	0.7	0.4	8.3	2.8	3.7	APR	353
JUL-SEP	0.8	0.4	9.4	2.5	2.0	AUG	284
OCT-DEC	1.0	0.7	9.3	3.2	4.1	NOV	326
ANNUAL	0.9	0.5	8.8	2.9	4.1	NCV	1307



a. Wave height



b. Wave period

Figure C35. 1985 mean, standard deviation, and extreme  $\frac{H}{mo}$  and  $\frac{T}{p}$  for Gage 640

Table C23

1985 Annual Joint Distribution of H versus T for Gage 640

			۲	ERCENT	OCCURI	RENCE (	ANNUA X100)		OHT ANI	PERIO	סכ		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1.0-	3. 0- 3. 9	4. 0~ 4. 4	5. 0- 5. 9	6 0- 6. 9	7 0-	8. 0- 8. 9	9 0-	10 0- 11 9	12 0-	14 0- 9 15 9		
_													2020
0 00 - 0.49	31	69	46	92	191	245	604	505	459	275	314	9	2839
0 50 - 0.99	8	138	168	444	436	344	979	490	451	268	458	8	4162
1 00 - 1 49		8	99	406	383	199	321	207	199	8	77		1907
1 50 - 1 99		_		130	222	92	99	69	46		54		712
2.00 - 2.49				15	31	46	61	46	23	8	8		238
- T' II - T II		•			٠.	8	15	15	8	_	15		61
						8		31	15		ě		62
3.00 - 3.49						-		31	13		ě		16
3 50 - 3.99							8		_		9		
4 00 - 4 49									8				8
4 50 - 4 99													0
5 00 - GREATER													0
TOTAL	39	215	313	1087	1263	942	2087	1363	1209	559	912	16	

Table C24

1985 Seasonal Joint Distribution of H versus T for Gage 640

			PI	ERCENT	occu <b>r</b>	BEASO RENCE (		AN-MAR OF HEI	GHT AN	D PERI	ao		
HEIGHT (METERS)						PERI	OD(SEC	ONDS )					TOTAL
	1 0- :	3 O- 3 9	4 0- 4 4	5 0-	6 0-	7 0-	8 O- .) 9	9 0- 9 9	10 0- 11 9		14 0- 1 9 15 9	6 0- Longer	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 50 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER		59 148 30	30 179 148	592 6 <b>8</b> 0 59	533 740 503 30	99 385 148 89 30	473 1302 325 118 89 30	385 592 207 30 30 30	355 355 178 30	207 148	296 178 30 30 30	30 30	1924 4441 2486 853 179 90 30 0
TOTAL	0	237	356	1331	1806	741	2337	1304	918	355	564	60	

(Continued)

## Table C24 (Concluded)

			PEI	RCENT	DCCURF	SEASON RENCE(X	IAL AF		HT AND	PERIC	OD.		
HEIGHT (METERS)						PERIO	D (SEC	)NDS)					TOTAL
	1. 0- 2. 9	3. 0 <del>-</del> 3. 9	4. 0- 4. 9	5. 0 <del>-</del> 5. 9	6. 0- 6. 9	7. 0 <del>-</del> 7. 9			10 C- 11 9			16 0- LONGER	
0.00 - 0.49 0.50 - 0.99 1.00 - 1.49 1.50 - 1.99 2.00 - 2.49 2.50 - 2.99 3.00 - 3.49 3.50 - 3.99 4.00 - 4.49 4.50 - 4.99 5.00 - GREATER	111 28	167	111 251 56	139 474 195 28 28	557 613 306 56	418 446 195 28 28	1058 1142 334 56	641 370 195 28	251 306 56 28 28	251 334	139 251 28 56 28 28		3843 4374 1365 252 112 C 29 28 0
TOTAL	139	306	418	864	1532	1115	2590	1254	669	585	530	0	U
HEIGHT(METERS)			PI	ERCENT	DCCUR	RENCE	X100)			D PERI	OD		
HE I WHITTIERS							OD(SEC						TOTAL
	1.0- 2.9			5.0- 5.9	6 0- 6.9	7.0 <del>-</del> 7 7 9	8.0~	90-	10 0- 11 9			16 0- 9 LONGER	
0.00 - 0 49 0.50 - 0 99 1.00 - 1.49 1.30 - 1.99 2.00 - 2.49 2.50 - 2.99 3.00 - 3.49 3.50 - 3.99 4.00 - 4.49 4.50 - 4.99 5.00 - GREATER	•	176	35 35 106	35 106 246 176	106 176 176 141 35	317 176 246 246 35	563 775 493 106	599 810 282 70 35	1197 599 387 35	352 246	458 352 70		3662 3451 2006 774 105 0
TOTAL	0	176	176	563	634	1020	1937	1796	2218	598	880	0	0
HEIGHT(METERS)	1 0- 2.9	30- 393-	4 0-	5 0-	6 0-	PERI 7 0-	(X100) (OD (SE) (B) 0-	ONDS)	10 0-	12 0-	· 14 0-	- 16 O- 9 LONGER	TOTAL
0 00 - 0 49	• . 1	, 3. v 31	₹. ₹	184	_		-					Y LUNGER	
0 50 - 0 99 1 00 - 1 49 1 50 - 1 79 2 00 - 2 39 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99		92	184 92	552 491 276 31	61 368 276 184 61	153 337 215 31 92 31 31	276 644 153 123 153 31	399 215 153 184 92 31 92	153 583 215 92 61 31 61	307 337 31 31	399 951 184 123 31 31		1963 4263 1810 1013 552 155 184 31
5 00 - GREATER TOTAL	o	123	276	1534	950	890	1411	1166	1227	706	1719	o	0

Table C25

1985 Monthly Joint Distribution of H Versus T for Gage 640

			PI	ERCENT	OCCUR		NTH JA X100)		GHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0- 2. 9		4. 0- 4. 9	5. 0- 5. 9							14 0- 9 15 9	16.0- LONGER	
0.00 - 0.49 0.50 - 0.99 1.00 - 1.49 1.50 - 1.99 2.00 - 2.49 2.50 - 2.99 3.00 - 3.49		175 263	88 439 175	614 439 88	526 702 789 88	175 263 175 88 89	789 1228 263 88 175 88	526 175 88	439 175	88	263 263 88	<b>88</b>	2631 3946 1930 1053 351 88
3.50 - 3.99 4.00 - 4.49 4.50 - 4.99 5.00 - GREATER TOTAL		438	702	1141	2105	7 <b>89</b>	2631	789	614	88	614	89	0 0 0
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HEIGHT (METERS)							OD (SEC						TOTAL
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0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99		194	97	291 1262 97	680 777 291	583 291 97	1262 97	194 1262 194	97 777 194 97	194 194	291 97 97	97	776 5437 2912 679 0
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER TOTAL	•							<b>9</b> 7			97		97 97 0 0 0
TOTAL	0	194	97	1650	1748	971	1359	1747	1165	388	582	97	
				PERCEN	T DCCU		ONTH M (X100)		ICHT AM	ND PER	IOD		
HEIGHT (METERS)							IOD (SE						TOTAL
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0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99		83	83 165	826 413	413 744 413	83 331 83	579 1405 379 248 83	413 331 83	496 165 331	331 248	331 165		2233 4049 2646 827 166 83 0
4 00 - 4 49 4 50 - 4 99 5 00 - GREATER TOTAL	o	83	248	1239	1570	497	2894	1406	992	579	496	0	0

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(Sheet 1 of 4)

#### Table C25 (Continued)

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#### MONTH APR PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD HEIGHT (METERS) PERIOD (SECONDS) TOTAL 8.0~ 9 0~ 10 0~ 12 0~ 14 0~ 16 0~ 8.9 9 9 11 9 13 9 15 9 LONGER 6.0- 7.0-9 6.9 7.9 - 0. 49 - 0. 99 - 1. 49 - 1. 99 - 2. 49 - 2. 99 - 3. 49 - 3. 99 - 4. 49 - 4. 99 - 9REATER 0 00 0 50 1 00 1 50 2 00 2 50 3 00 3 50 4 00 4 50 85 1280 426 255 0 85 85 0 TOTAL MONTH MAY PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD HEIGHT (METERS) PERIOD (SECONDS) TOTAL 10 0- 12 0- 14 0- 16 0-9 11 9 13 9 15 9 LONGER 3 0-9 9 434 151 81 958 563 887 1955 645 242 - 0 49 - 0 99 - 1 49 - 1 99 - 2 49 - 3 49 - 3 99 - 4 49 - 4 69 - OREATER 00 50 00 50 00 50 81 323 81 0 TOTAL MONTH JUN PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD HEIGHT (METERS) PERIOD (SECONDS) TOTAL 8 0- 9 0- 10 0- 12 0- 14 0- 16 0-8 9 9 9 11 9 13 9 15 9 LONGER 6 0-- 0 49 - 0 99 - 1 49 - 1 99 - 2 49 - 2 99 - 3 49 - 3 99 - 4 49 - 4 99 - GREATER 3474 846 0 0 0 0 0 0 00 0 50 1 00 1 50 2 00 2 50 3 00 3 50 4 00 4 50 254 254

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		PE	ERCENT OCCUP		NTH JUL (100) (		SHT AND	PERIC	סנ		
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0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99		83 83 167	250 83 83 250 250 83	750 417 83 83	1000 500 83 167	1083 750 83 83	1167 250 167	7 <b>5</b> 6	1083 167		6166 2333 :083 416 0 0
5.00 - GREATER TOTAL	o	<b>83</b> 250	333 666	1333	1750	1999	1504	750	1250	0	Ö
		M	ERCENT OCCU		NTH AU X100)		OHT ANI	) PERI	מכ		
HEIGHT (METERS)				PERI	OD (SEC	ONDS)					TOTAL
	2 9	0- 4 0- 3 9 4 9	5 9 6	70- 979	8 0- 8 9	9 0- 9 9	10 0- 11 9	12 0-	14 0- 1 7 15 9	16 0- Longer	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99	•	563 141 141	141 563 282 563 282	141	563 2113 1268	292 986 141 141		141 704	563		786 5774 1973 986 282 0 0
5 00 - GREATER TOTAL	0 9	363 282	986 845	423	3944	1550	0	845	563	0	ŏ
		PI	ERCENT DCCU		NTH SEI X100) (		OHT AND	PERIO	סכ		
HEIGHT (METERS)				PERI	DD (SEC	DNDS)					TOTAL
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0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99		· · · · · · · · · · · · · · · · · · ·	108 108 215 215 109 108 108	538 538	108 430 108	645 108	2151 1505 968 108	215	430 215		2474 3119 3226 1079 108
3. 00 - 3. 49 3. 50 - 3. 99 4. 00 - 4. 49	•	•	*		· ·						0
4 50 - 4.99 5 00 - GREATER TOTAL	0	0 0	539 431	1076		1721	4732	215	445	O	0 0
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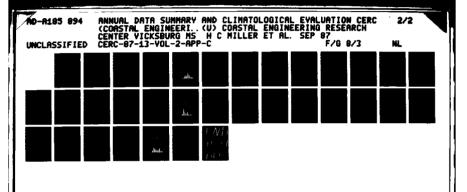
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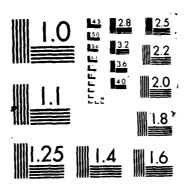
(Sheet 3 of 4)

#### Table C25 (Concluded)

#EIOHT (METERS)    1 0- 3 0- 4 0- 5 0- 6 0- 7 0- 8 0- 9 0- 12 0 12 0 14 0-16 0 0 0 0 0 0 0 0 49 0 180 450 451 541 721 1332 90 180 450 361 154 1 150 180 180 180 360 361 180 180 180 180 360 361 180 180 180 180 360 361 180 180 180 360 361 180 180 180 360 361 180 180 360 361 180 361 180 360 361 180 360 361 180 360 361 180 360 361 180 360 361 180 360 361 180 360 361 180 361 180 360 361 18				۲۱	ERCENT	OCCUR		(100) (	OF HEIG	HT AND	PERIO	יזני		
0 00 - 0 49	EIGHT (METERS)						PERIO	00 ( SEC	ONDS :					*~**
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1 00 - 4 49 1 30 - 4 49 9 9 9 1078	3 00 - 3 49							-	<b>9</b> 0					90
TOTAL     0   180   630   1622   1171   1171   2252   1080   810   190   901   0	4 00 - 4 49							₩0						<b>9</b> "
#EIGHT (METERS)  #ERCENT OCCUMRENCE(XIOO) OF HEIGHT AND PERIOD  #EIGHT (METERS)  #EIGHT (METERS)  1 0- 3 0- 4 0- 5 0- 6 0- 7 0- 8 0- 9 0- 10 0- 12 0- 14 0- 16 0- 2 9 3 9 6 9 7 9 8 9 9 9 19 19 19 12 9 15 9 LDNGER  0 00 - 0 49  0 50 - 0 99  1 90 98 196 196 196 196 196 197 198 294 196 196 197 198 294 196 198 294 196 198 198 294 198 198 298 198 198 198 198 198 198 198 198 198 1														:
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2	HEIGHT (METERS)						PERI	00 ( <b>9</b> E 0	ONDS					*0*4
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2 50 - 2 99 98 98 98 196 196 3 3 00 - 3 49 98 196 196 3 50 - 3 99 98 196 196 3 50 - 3 99 98 196 196 3 50 - 3 99 98 196 196 3 50 - 4 99 5 00 - QREATER TOTAL 0 0 0 98 1078 490 1078 1372 1274 1568 1274 1764 C  HONTH DEC PERCENT OCCURRENCE(X100) OF HEIGHY AND PERIOD  MEIGHT (METERS)  PERIOD (SECONDS)  1 0- 3 0- 4 0- 5 0- 6 0- 7 0- 8 0- 9 0- 10 0- 12 0- 14 0- 16 0- 2 9 3 9 4 9 5 9 6 9 7 9 8 9 9 9 11 9 13 9 15 9 LU IGER  0 00 - 0 49 98 177 88 265 531 973 442 442 773 0 50 - 0 99 88 88 796 177 796 1 00 - 1 49 796 354 88 88 88 98 98 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 265 1 50 - 1 99 88 177 88 1 77 88						98	98					98		686 980
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PERCENT OCCURRENCE (X100) OF HEIGHT AND PERIOD  PERIOD (SECONDS)  1 0- 3 0- 4 0- 5 0- 6 0- 7 0- 8 0- 9 0- 10 0- 12 0- 14 0- 16 0- 2 9 3 9 4 9 5 9 6 9 7 9 8 9 9 9 11 9 13 9 15 9 LU IGER  0 00 - 0 49 98 177 88 265 531 973 442 442 773 0 50 - 0 99 98 88 796 442 88 88 88 796 177 796 1 00 - 1 49 796 354 88 88 88 88 265 1 50 - 1 99 88 88 177														
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2 9 3 9 4 9 5 9 6 9 7 9 8 9 9 9 11 9 13 9 15 9 LU AGER  0 00 - 0 49 88 177 88 265 531 973 442 442 773  0 50 - 0 99 88 88 796 442 88 88 88 796 177 776  1 00 - 1 49 796 354 88 88 88 88 88 265  1 50 - 1 99 88 177	HEIGHT (METERS)						PER	100 ( <b>SE</b>	CONDS					101
0 50 - 0 99														
1 00 - 1 49 796 354 88 88 88 265 1 50 - 1 99 88 177				00										397
	1 00 - 1 49		90	00	796	354	96	50			1 / .	265		344 167
	2 00 - 2 49				88						88			534 264
2 50 - 2 99 3 00 - 3 49												98		81
3 50 - 3 99 4 00 - 4 49	3 50 - 3 99													(
4 50 - 4 99	4 50 - 4 99													
5 00 - GREATER TOTAL 0 176 88 1857 1149 441 619 1149 1326 707 2475 0		0	176	88	1857	1149	441	619	1149	1326	707	2475	0	

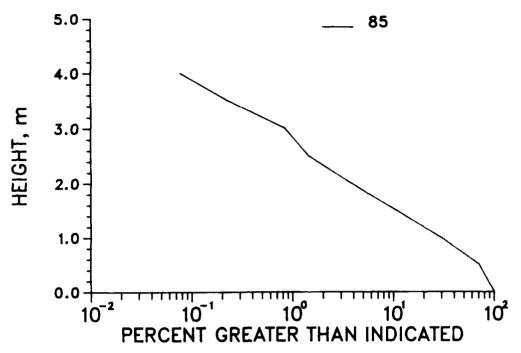
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Figure C36. 1985 annual cumulative distribution of  $\frac{H}{mo}$  for Gage 640

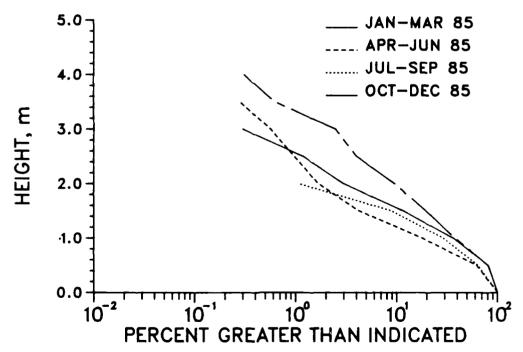


Figure C37. 1985 seasonal cumulative distribution of  $\frac{H}{mo}$  for Gage 640

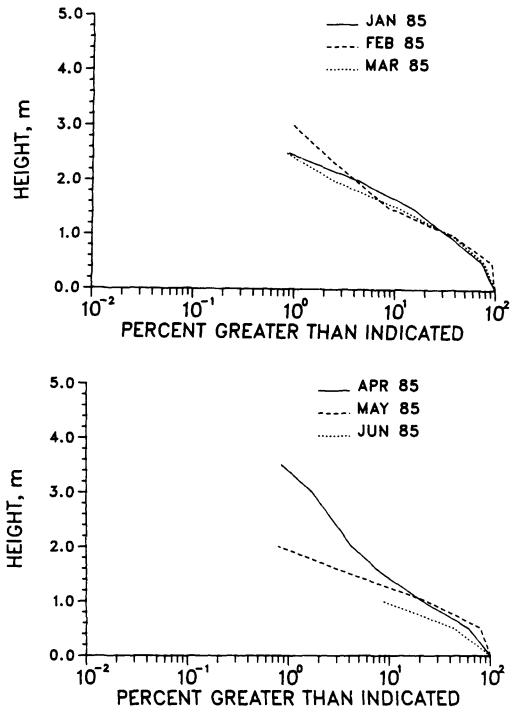
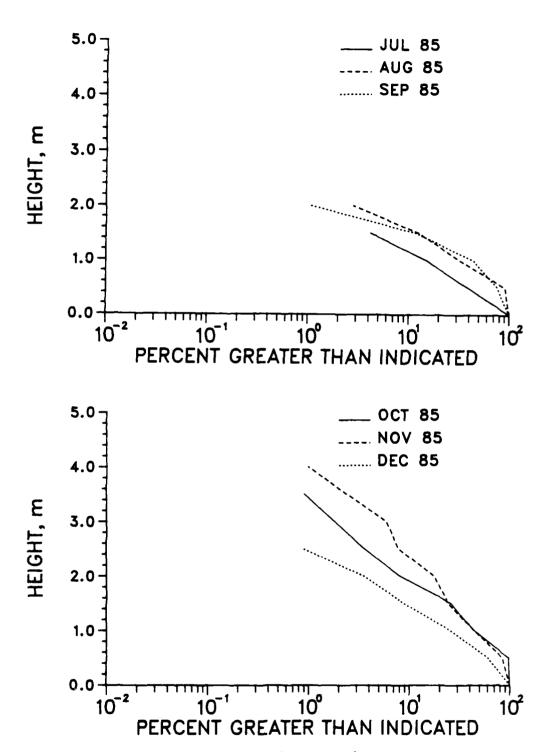
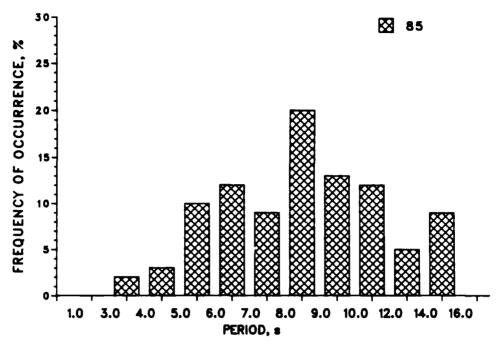


Figure C38. 1985 monthly cumulative distribution of H for Gage 640 (Continued)



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Figure C38. (Concluded)



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Figure C39. 1985 annual distribution of  $T_{D}$  for Gage 640

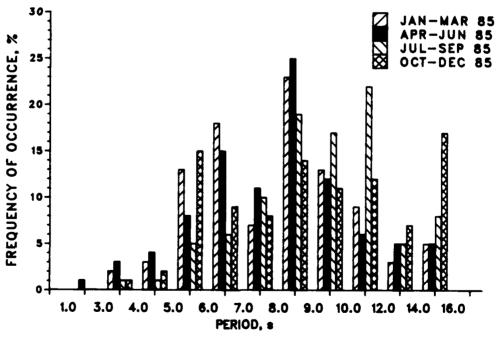
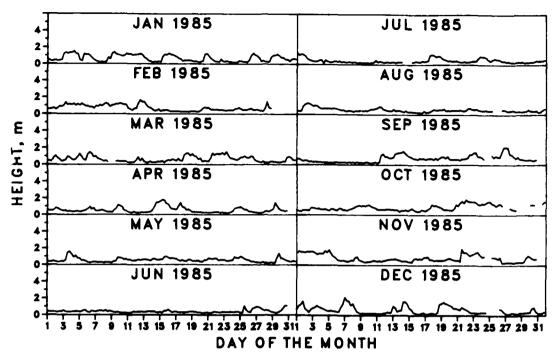


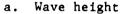
Figure C40. 1985 seasonal distribution of  $T_{p}$  for Gage 640

Table C26 1985 Persistence of H for Gage 640

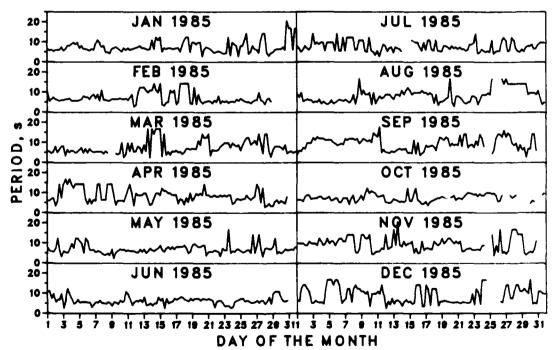
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	5	17	11					
	4	21	14	3				
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	12	26	36	17	7	3	3	,
	1		67	38	15	10	9	7
Height	) E	0.5	1.0	1.5	2.0	2.5	3.0	3,5

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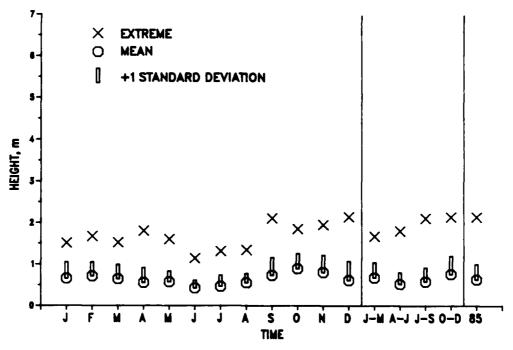
b. Wave period

Figure C41. Time-history of  $H_{mo}$  and  $T_{p}$  for Gage 645

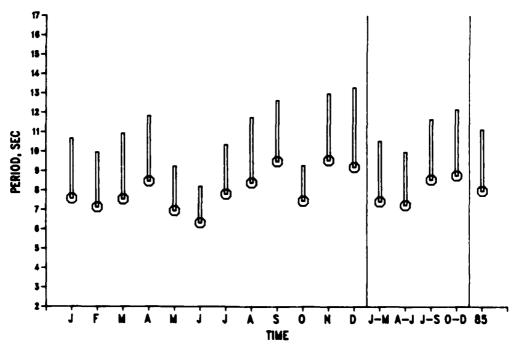
Table C27

1985 Mean, Standard Deviation, and Extreme H and T for Gage 645

MONTH	MEAN HEIGHT (M)	STD.DEV. HEIGHT (M)	MEAN PERIOD (SEC)	STD.DEV. PERIOD (SEC)	EXT. HEIGHT (M)	DATE	NUMBER OBS.
JAN	0.6	0.4	7.5	3.1	1.5	4	116
FEB	0.7	0.3	7.1	2.8	1.7	12	111
MAR	0.6	0.4	7.5	3.4	1.5	23	120
APR	0.5	0.4	8.4	3.4	1.8	15	116
MAY	0.6	0.3	6.9	2.3	1.6	3	122
JUN	0.4	0.2	6.3	1.9	1.1	30	115
JUL	0.4	0.3	7.7	2.5	1.3	1	118
AUG	0.5	0.2	8.3	3.4	1.3	2	115
SEP	0.7	0.4	9.4	3.2	2.1	27	117
OCT	0.9	0.4	7.4	1.8	1.8	22	103
NOV	0.8	0.4	9.5	3.4	1.9	21	112
DEC	0.6	0.5	9.1	4.1	2.1	7	112
JAN-MAR	0.7	0.4	7.4	3.1	1.7	FEB	347
APR-JUN	0.5	0.3	7.2	2.7	1.8	APR	353
JUL-SEP	0.6	0.3	8.5	3.1	2.1	SEP	350
OCT-DEC	0.8	0.4	8.7	3.4	2.1	DEC	327
ANNUAL	0.6	0.4	7.9	3.2	2.1	DEC	1377



a. Wave height



b. Wave period

Figure C42. 1985 mean, standard deviation, and extreme  $H_{mo}$  and  $T_{p}$  for Gage 645

Table C28

1985 Annual Joint Distribution of H versus T for Gage 645

			P	ERCENT	DCCUR	RENCE (	ANNUAI X100) (		OHT AN	D PERIO	00		
HEIGHT (METERS)						PER I	DD (SEC	ONDS)					TOTA
	1.0- 2.9	3. 0- 3. 9	4. 0 <del>-</del> 4. 9	5 0 <del>-</del> 5. 9	6. 0- 6. 9	7 0- 7.9	8. 0 <del>-</del> 8. 9	9 0- 9 9	10 0- 11 9	12 0-		16.0- i.ONGER	
0.00 - 0.49	102	218	305	857	443	305	639	487	487	501	458	7	4809
0.50 - 0.99	29	167	341	1082	625	269	472	138	167	116	131	15	3552
1 00 - 1.49			65	385	395	80	174	131	65	7	58		1350
1. 50 - 1. 99				15	51		15	94	36	7	44		262
2.00 - 2.49						7				7	15		29
2. 50 - 2. 99													0
3.00 - 3.49													0
3 50 - 3 99													0
4.00 - 4.49													0
4 50 - 4.99			,										0
5.00 - GREATER													0
TOTAL	131	385	711	2339	1504	661	1300	850	755	638	706	22	

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			ρ	ERCENT	DCCUR	SEASO RENCE(		AN-MAR OF HEIG	OHT AN	D PERIC	סו		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1.0 <del></del> 2.9	3. 0 <del>-</del> 3. 9	4.0-	5. 0- 5. 9	6.0 <del>-</del> 6.9	7. 0 <del>-</del> 7. 9	6. 0- 8. 9	9.0- 9.9	10 0- 11. 9			16.0- Longer	
0 00 - 0.49 0.50 - 0.99	505 505	2 <b>99</b>	548 346	951 1268	144 663	115 173	348 288	346 144	259 173	490	403 115	29	4294 3343
1.00 - 1.49 1.50 - 1.99			58	576	1066	86	588	115 58	29		58 29		2276 87
2.00 - 2.49 2.50 - 2.99						•		•					0
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49								•				•	0
4 50 - 4 99 5.00 - GREATER		:											0
TOTAL	231	403	952	2795	1873	374	1124	663	461	490	605	29	

(Continued)

#### Table C29 (Concluded)

			PE	SCENT	OCCUPE		IAL AF	PR-JUN DF HEIG	SHT AND	, 05010	10		
HEIGHT (METERS)					000011		D(SEC		,,,,	/ FER 10			TOTAL
HEIGHT (HEICKS)	1.0-	3. 0-	4.0-	5. 0~							14.0-	14.0	TOTAL
	2. 9	3. 9	4. 9	5. 9	6. 0 <del>-</del> 6. 9	7. 9	8.9	99			14 0-	LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49	142 28	425 198	340 227 28	1331 1133 198	992 935 85	623 255	935 368	368 28 113	198 28 28	510 28	283 28 28		6147 3256 480
1.50 - 1.99 2.00 - 2.49				170	28		28	113	28		58		112
2.50 - 2.99 3.00 - 3.49							•						0
3 50 - 3 99													0
4 00 - 4 49 4 50 - 4.99					•								0
5.00 - GREATER	. 70	433	595	2442	2040	070	1221	509	262	520	24.7	0	. 0
TOTAL	170	<b>653</b>	545	2662	2040	878	1331	309	585	538	367	U	
			P	ERCENT	T OCCUF			JUL-SEP OF HEI		ID PERI	ap		
HEIGHT (METERS)						PERI	OD(SE	(SQNO:					TOTAL
	1.0- 2.9	3.0 <del>~</del> 3.9	4.0 <del>-</del> 9 4.9	5. 0- 5. 9		7.0- 7.9					9 15	16 0- 9 LONGER	
0.00 - 0.49 0.30 - 0.99	29 57	229	114 486	714 829	486 371	314 229	914 600	857 200	1029 200	429 257	457 114	29	5372 3572
1 00 - 1 49 1 50 - 1 99	-	-	114	586	143 29	86	86	57	96	29	29		916
2.00 - 2.49					27					29	29 5 <i>7</i>		59 86
2.50 - 2.99 3.00 - 3.49			•										0
3.50 - 3.99													0
4 00 - 4 49 4 50 - 4 99		-			-								0
5.00 - GREATER													Ö
TOTAL	86	229	714	1829	1029	629	1600	1114	1315	744	686	54	
			•	ERCENT	OCCUR			OF HEI		ID PERI	OD		
HEIGHT (METERS)						PERI	0D ( SE (	(PDMDS)					TOTAL
	1.0 <del>-</del> 2.5	3.0- 3.9	4. 0- 4. 4	5.0- 5.9				90-			9 15	16 0- 9 LONGER	
0 00 - 0 49	31	153	214	398	122	153	122	367	459	581	203		3303
0 50 - 0 99 1 00 - 1 49	•	122	306 61	1101 489	520 245	42 <del>0</del> 153	642 336	183 245	275 122	183	275 122	31	4066 1773
1 50 - 1 99				61	153		31	336	122	31	92		826
2.00 - 2.49 2.50 - 2.99						31							31
3 00 - 3 49			•										0
3 50 - 3 99 4 00 - 4 49			•										0
4 30 - 4 99													0
5 00 - GREATER TOTAL	31	275	581	2049	1040	765	1131	1131	978	795	1192	31	0

Table C30

1985 Monthly Joint Distribution of H Versus T for Gage 645

							NTH JAN						
urious mesens			PI	ERCENT	DCCURI				CHT AND	PER I	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0- 2. 9	3. 0- 3. 9	4. 0- 4. 9	5. 0- 5. 9	6 0- 6 9		8. 0- 8. 9		10 0- 11 9		14 0- 9 15 9	16 C- LONGER	
0 00 - 0 49 0 50 - 0 95	259	172	603 345	776 690	259 948	172 86	690	517	517	259	517 172	86	4741 2327
1 00 - 1, 49			86	517	1379	259	517	86			1/4	80	2844
1.50 - 1.99								86					86
2.00 - 2.49 2.50 - 2.99													0
3 00 - 3 49						•	•						0
3, 50 - 3, 99												•	ŏ
4 00 - 4 49								*					0
4 50 - 4 99 5 00 - GREATER		•	•		•								0
TOTAL	259	172	1034	1983	2586	517	1207	689	517	259	689	86	0
			P	ERCENT	OCCUR		NTH FE		GHT ANI	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0- 2. 9		4. 0- 4. 9		6 0- 6. 9	7 0- 7. 9					14 0-	16.0+ 7 LONGER	
0.00 - 0.49		450	360	1351			270	180	270	631	90		3602
0 50 - 0 99	90	180	270	1622	631	270	270	270	270	٠٠.	, ,		3873
1 00 - 1 49 1 50 - 1 99		•		. 811	1171		90	90	90		180		2432
2 00 - 2 49											90		90
2 50 - 2 99				•		•							0
3 00 - 3 49													0
3.50 - 3.99 4.00 - 4.49													ŏ
4 00 - 4 49 4 50 - 4 99		•											0
5 00 - GREATER					•		•						0
TOTAL	90	630	630	3784	1802	270	630	540	630	631	360	Ö	0
			PI	ERCENT	OCCUR		NTH MAP X100) (		OHT AND	PERI	ao		
HEIGHT (HETERS)						PERI	DD (SEC	ONDS)					TOTAL
	1 0- 2 9	3. 0- 3. 9	4. 0 <del>-</del> 4. 9		6. 0~ 6. 9			9 0- 9 9			14 0- 9 15 9	16 0- LONGER	
0 00 - 0 49	333	520	667	750	167	167	667	333		583	583		4500
0 50 ~ 0 99 1 00 - 1 49		167	417 83	1500	417	167	583	167	250		167		3835
1 50 - 1 99			63	417	667		250	167 83					1584 83
2 00 - 2 49													0
2 \$0 - 2 99													0
3 00 - 3 49													0
3 50 - 3 99 4 00 - 4 49			*										0
4 30 - 4 99					-								0
5 00 - GREATER													ŏ
TOTAL	333	417	1167	2667	1251	334	1500	750	250	583	750	0	
					(C								

(Continued)

(Sheet 1 of 4)

#### Table C30 (Continued)

			PE	PCENT	Occups		NTH API	R OF HEIG	LIT ANI	0581	חה		
HEIGHT (METERS)			,,,	RUENI	UCCOR		DOSEC		ITI MINI	D PERM			TOTAL
	1.0-	3. 0- 3. 9	4.0-	5 0- 5. 9	6. 0- 6. 9		8 0-	9 0-			14 0-	16 0- LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49	86	259 431	345 259 86	431 603 259	345 862 172	259 345	1724 345	603 86 259	86	1379 86	431		5862 3017 862
1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49		•		•			86		86		86		259 0 0 0
3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER													0 0 0 0
TOTAL	86	690	690	1293	1379	604	2155	948	172	1465	517	0	
			ρ	ERCENT	- DCCUR		NTH MA	Y OF HEI	CHT AN	ID PERI	OD		
HEIGHT (METERS)						PERI	OD ( SE (	ONDS)					TOTAL
	1 0-	3.0- 3.6	4 0-								14 0- 9 15 9	16 0- LONGER	
0 00 - 0.49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99	82	328 164	164 246	1148 1967 164	902 1475 82	492 328	738 656	164 B2	82 82	164	92 92 329		4592 5000 328 82 0
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER			•										900000
TOTAL	82	492	410	3279	2459	820	1394	246	164	164	492	0	•
			ρ	ERCENT	OCCUR		NTH JU X100)	IN OF HEI	GHT AN	ID PERI	00		
HEIGHT (METERS)						PERI	OD (SEC	CONDS					TOTAL
	1 0- 2.9	3.9	4.0 <del>-</del> 4.9	5 0- 5 5	6 0-	70-					14 0- 9 15.9	16.0- LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99	261 87	696	522 174	2435 783 174	1739 435 87	1130 87	348 87	348	522		87		8088 1653 261 0
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER													0 0 0
TGTAL	348	696	696	3392	2261	1217	435	348	522	0	87	0	•

(Continued)

(Sheet 2 of 4)

			01	FRCENT	UCCUR		NTH JUI		GHT ANI	) DED!	nn.		
HEIGHT (METERS)			, ,		20001		OD(SEC		•,,,	, reni			TOTAL
	1. 0 <del>~</del> 2. 9	3. 0 <del>-</del> 3. 9									14 0- 9 15 9	16 0- LONGER	
0.00 - 0.49	85		85	1864	1102	678	932	1017	678	254	678		7373
0.50 - 0.99 1.00 - 1.49		85	254	847 424	169 85		254 85	169	169 95				1947 679
1.50 - 1.99							•		20				ő
2.00 - 2.49													0
2.50 - 2.99 3.00 - 3.49			-										0
3. 50 - 3. 99		:											ŏ
4.00 - 4.49				-									o o
4.50 - 4 99 5.00 - GREATER	•		-		•								0
TOTAL	85	85	339	3135	1356	678	1271	1186	932	254	678	0	J
			ρ	ERCENT	OCCUR		NTH AU X100)		GHT AN	D PERI	ā		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0 <del>-</del> 2. 9										14 G- 9 15 9	16 0- P LONGER	
0.00 - 0.49			261	261	348	174	1739	870	522	783	435		5393
0. 50 - 0. 99	87	435	783	957	435	348	696	174		174	87		4176
1.00 - 1.49 1.50 - 1.99	•		•	348	87								<b>435</b> 0
2.00 - 2.49													ŏ
2. 50 - 2. 99													0
3, 00 - 3, 49 3, 50 - 3, 99	٠					•							0
4.00 - 4.49	,	•											ŏ
4. 50 - 4. 99													0
5.00 - GREATER TOTAL	87	435	1044	1566	870	522	2435	1044	522	957	522	0	0
TOTAL	8/	433	1044	1306	8/0	344	2433	1044	324	73/	344	U	
			e!	FRCFNT	Decue		NTH SE		CHT ANI	PERI	מח		
MEIGHT (METERS)							DD (SEC		•				TOTAL
	1 0-	3.0-	4 0-	5.0~	A 0-	7 0-	B 0-	9 0-	10 0-	12.0-	14 0-	16 0-	
	2.9	3. 9										LONGER	
0 00 - 0.49						85	85	684	1880	256	256	85	3331
0 50 - 0.99	85	171	427	684	513	342	855	256	427	598	236		4614 1622
1.00 - 1.49 1.50 - 1.99			342	85	256 85	256	171	171	171	85	95 95		170
2.00 - 2.49										85	171		256
2.50 - 2.99													0
3.00 - 3.49 3.50 - 3.99	•		•										0
4.00 - 4.49													Ō
4.50 - 4.99													0
5.00 - GREATER TOTAL	85	171	769	769	854	683	1111	1111	2478	1024	853	85	Ü

(Continued)

(Sheet 3 of 4)

### Table C30 (Concluded)

			۲(	ERCENT	OCCUR		NTH OC	T OF HEIG	SHT ANI	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0- 2. 9	3. 0- 3. 9	4. 0- 4. 9	5 0- 5 9	6. Q- 6. 9				10 G- 11 9		14 C- 9 15 9	16 0- LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER		97	485 97	388 1262 583	291 680 485 97	97 1068 388	97 1359 680	97 583 388	97 97 291		97		1067 5145 3010 776 0 0 0 0
TOTAL	0	97	582	5533	1553	1553	2136	1068	485	0	291	0	
			P	ERCENT	DCCUR		NTH NO	V OF HEIG	SHT ANI	D PERI	<b>o</b> o		
HEIGHT (HETERS)						PERI	OD (SEC	ONDS)					TOTAL
	1 0- 2, 9	3. 0- 3. 9	4.0~ 4.9	5 0- 5. 9							14 0- 9 15 9	16.0- LONGER	
0.00 - 0 49 0.50 - 0 99 1.00 - 1 49 1.50 - 1 99 2.00 - 2 49 2.50 - 2 99 3.00 - 3 49 3.50 - 3 99 4.00 - 4 49 4.50 - 4 99 5.00 - GREATER		179	268 179	536 625 179 89	625 179 179	99 268 89	179 625 357 89	179 446 179 625	357 714 268 89	714 357	536 536 89 89	89	2858 4643 1340 1160 0 0 0
TOTAL	0	179	447	1429	983	446	1250	1429	1428	1071	1250	89	J
HEIGHT (METERS)			f	PERCENT	r Occuf	RENCE	DNTH DI (X100) IOD(SE(	OF HE	ight an	ID PER	100		TOTAL
	1.0- 2.9				-						- 14 0- 9 15	16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 5 00 - GREATER	87	446 89	357 268 89	268 1429 714 89	89 268 89 179	268 89	8 <b>9</b>	893	982	982 179 89	1339 268 179 179		5802 2501 1071 536 89 0 0 0
TOTAL	89	535	714	2500	625	357	89	893	982	1250	1965	0	

(Sheet 4 of 4)

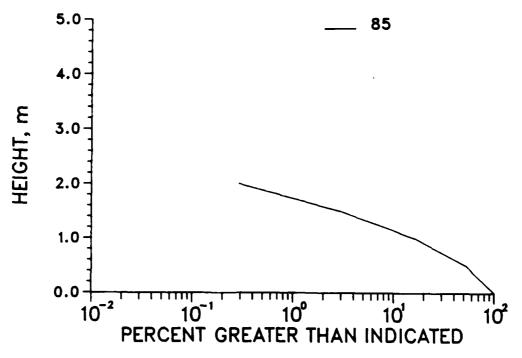


Figure C43. 1985 annual cumulative distribution of  $\frac{H}{mo}$  for Gage 645

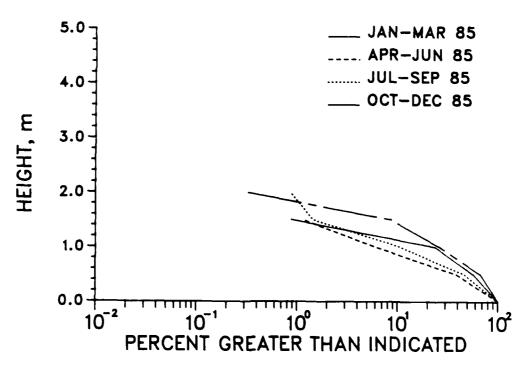


Figure C44. 1985 seasonal cumulative distribution of  $\frac{H}{mo}$  for Gage 645

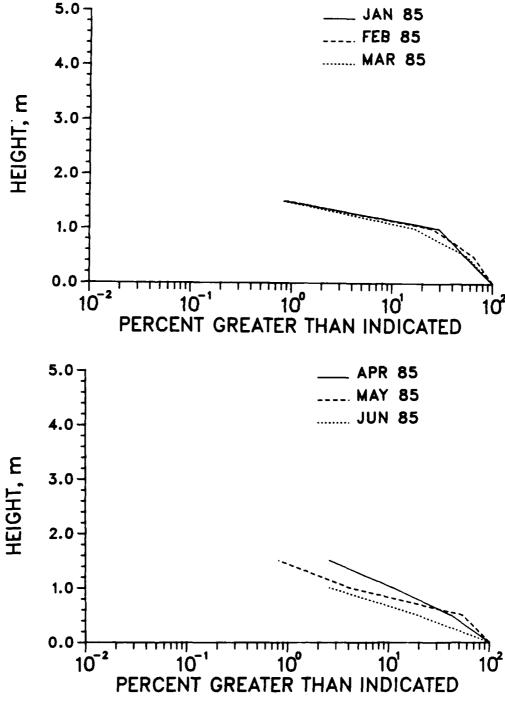


Figure C45. 1985 monthly cumulative distribution of  $H_{mo}$  for Gage 645 (Continued)

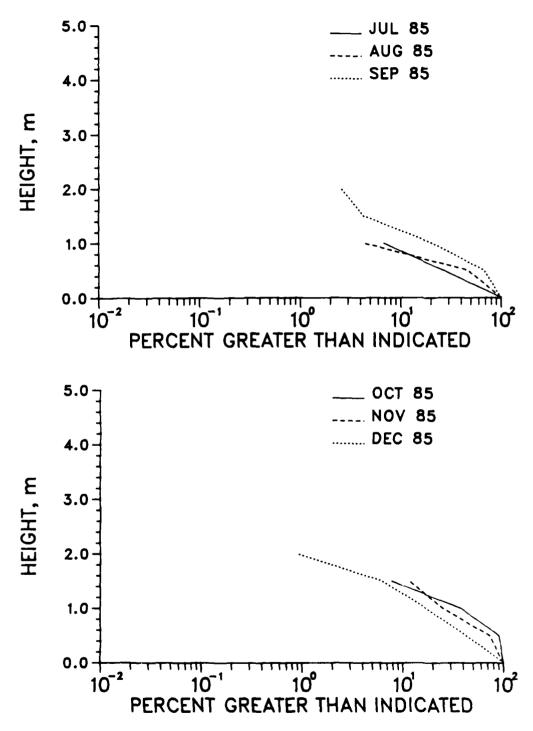


Figure C45. (Concluded)

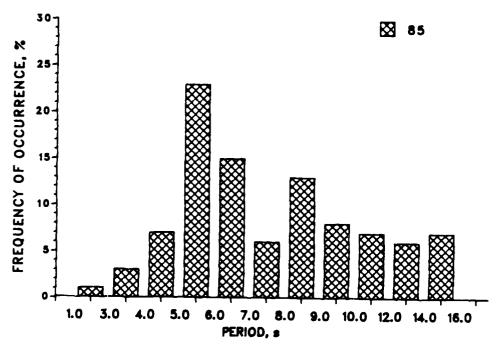


Figure C46. 1985 annual distribution of  $T_{D}$  for Gage 645

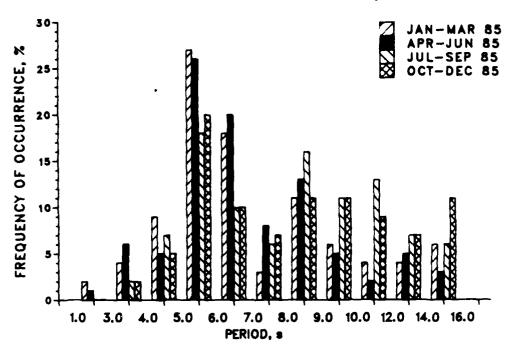


Figure C47. 1985 seasonal distribution of  $T_p$  for Gage 645

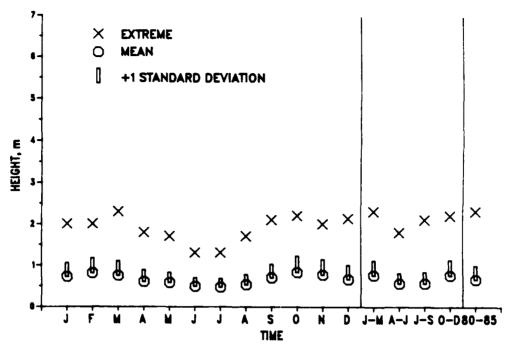
Table C31 1985 Persistence of H for Gage 645

CONTRACTOR CONTRACTOR CONTRACTOR

Height							Conse	cutiv	ve Da	Consecutive Day(s) or I	or L	Longer							
E	-1	2	6	4	5	۱۹	-	ω <sub>1</sub>	9	01	  =	12	21	71	21	91	12	<u>8</u> 1	161
0.5	97	35	30	20	14	11	10			7	5	4						9	
1.0	39	39 26 15	15	7			2												
1.5	14	4	က		2	-													
٠	·	-																	

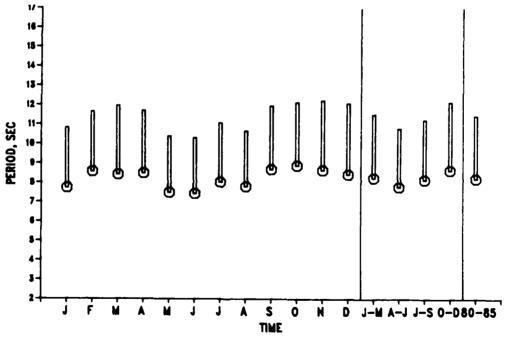
SOME NONE SOME NONE SOME OF CONTRACT PROPERTY OF CONTRACT CONTRACTORS AND CONTRACT OF CONT

MONTH	MEAN HEIGHT (M)	STD.DEV. HEIGHT (M)	MEAN PERIOD (SEC)	STD.DEV. PERIOD (SEC)	EXT. HEIGHT (M)	DATE	NUMBER CBS.
JAN	0.7	0.3	7.7	3.1	2.0	80	555
FEB	0.8	0.4	8.5	3.1	2.0	8 3	569
MAR	0.7	0.4	8.4	3.5	2.3	80	642
APR	0.6	0.3	8.4	3.2	1.8	85	574
MAY	0.6	0.2	7.5	2.9	1.7	81	660
JUN	0.5	0.2	7.4	2.9	1.3	82	619
JUL	0.5	0.2	8.0	3.1	1.3	85	634
AUG	0.5	0.2	7.8	2.9	1.7	82	628
SEP	0.7	0.3	8.7	3.3	2.1	85	595
OCT	0.8	0.4	8.9	3.3	2.2	82	658
VOV	0.8	0.4	8.6	3.6	2.0	81	638
DEC	0.7	0.4	8.4	3.7	2.1	85	618
JAN-MAR	0.8	0.4	8.2	3.3	2.3	MAR 1980	1766
APR-JUN	0.5	0.3	7.7	3.0	1.8	APR 1985	1853
JUL-SEP	0.6	0.3	8.1	3.1	2.1	SEP 1985	1857
OCT-DEC	0.7	0.4	8.6	3.5	2.2	OCT 1982	1914
ANNUAL	0.6	0.3	8.2	3.3	2.3	MAR 1980	7390



TABLESON TOTAL BOOM TOTAL TOTAL CONTROL MERCENTAL TOTAL TOTAL TOTAL TOTAL TOTAL STATES





b. Wave period

991**=** 505355011=16353554=35995391=14565659

Figure C48. 1980 through 1985 mean, standard deviation, and extreme  $\frac{H}{mo}$  and  $\frac{T}{p}$  for Gage 645

Table C33
1980 Through 1985 Annual Joint Distribution of

 $\frac{\text{H}}{\text{mo}}$  versus  $\frac{\text{T}}{\text{p}}$  for Gage 645

			ρ	ERCENT	DCCUR	RENCE (	ANNUA		GHT AN	D PERI	ΠD		
EIGHT (METERS)							DD (SEC			- C			TOTA
	1 · 0- 2 · 9	3. 0- 3. 9	4 0- 4. 9	5 0- 5. 9	6.0- 6.9	7 O- 7 9	8.0- 8.9	9 0-	10 0-		14 0- 9 15 9	16 0- 7 LONGER	
0 00 - 0 49	37	95	202	414	281	279	384	441	643	378	311	81	3546
0 50 - 0 99	16	162	463	943	809	419	350	322	645	181	303	45	4658
1 00 - 1 49			32	250	384	185	93	96	188	116	169	12	1525
1 50 - 1 99			_	7	31	23	ā	30	47	37	58	• • • • • • • • • • • • • • • • • • • •	248
2.00 - 2.49						- 3	•		1	a	7	,	19
2 50 - 2 99						_			•	•	,		, , , , , , , , , , , , , , , , , , ,
3 00 - 3 49													a
3 50 - 3 99													o
4 00 - 4 49													0
4 50 - 4 99													0
5.00 - GREATER													0
TOTAL	53	257	697	1614	1505	909	B35	889	1524	720	948	145	U

COCCOM SECURE SECURE SECURED S

			P	ERCENT	OCCUR	SEASO RENCE(		AN-MAR OF HEI		D PERI	ao		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1 0-2.9	3. 0+ 3. 9	4. 0 <del>~</del> 4. 9	5. 0- 5. 9	6 0-	7 0- 7 9	8. 0- 8. 9	9 0-	10 0- 11 9		14 0- 9 15 <b>9</b>	16 0- LONGER	
0 00 - 0 49	62	96	204	374	170	125	243	159	532	198	243	23	2429
0 50 - 0 99	23	215	374	997	832	334	249	266	855	238	476	11	4870
1 00 - 1 49			31	323	600	243	153	108	294	221	294		2287
1 50 - 1 99				6	23	45	17	40	79	85	96		391
2 00 - 2 49										17	6		23
2 50 - 2 99													-0
3 00 - 3 49													ō
3 50 - 3 99													ō
4 00 - 4 49													ŏ
4 50 - 4 99													ŏ
5 00 - GREATER													ŏ
TOTAL	85	311	629	1700	1625	747	662	573	1760	759	1115	34	J

(Continued)

#### Table C34 (Concluded)

			051	ACENT.		SEASON					.=		
HEIGHT (HETERS)			PE	KCENI	OCCURR	PERIO:			HT AND	PERIC	ib		TOT 4:
ne to minimum person	1 0-	3.0-	4 0-	5 0-	6 0-								TOTAL
	2.9	3.9	4 4	5 9	6 9	7 9	8 9	9 9	11 9	13 9		LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49	32 36	173 178	291 567 11	599 1052 119	432 756 146 11	464 421 54	534 459 59 5	556 372 76	604 664 140 11	399 86 32 5	297 173 81 11	81 32	4458 4782 718 43 0 0
3.50 - 3 99 4 00 - 4 49													0
4 50 - 4 99 5.00 - GREATER													0
TOTAL	60	351	869	1770	1345	939	1057	1004	1419	512	562	113	Ŭ
HE[GHT(METERS)			P	ERCENI	PUCCUR	RENCE (	X100)	JUL-SEI OF HE		ND PERI	מס		TOTAL
	: 0-	3.0-	4 0-	5.0-	4 0-				10.0	- 13 0	. 14 C.	- 16 0-	TOTAL
	2.9								9 11 9			9 LONGER	
0.00 - 0.49 0.50 - 0.99 1.00 - 1.49 1.50 - 1.99 2.00 - 2.49 2.50 - 2.99	22 16	65 162	178 506 27	447 808 215 5	377 700 232 16	377 501 118 16	668 382 70	819 382 65 5		442 188 27 5	323 226 65 16 11	92 43 11	4682 4302 932 68 16
3.00 - 3.49 3.50 - 3.99						•							0
4 00 - 4 49 4 50 - 4 99	•												0 (
5.00 - GREATER													ŏ
TOTAL	38	227	711	1475	1325	1012	1120	1271	1367	667	641	146	
HEIGHT(METERS)		2.4			GCCUR	RENCE (	DD ( SE (	(PONO:	IOHT AN				TOTAL
	1.0- 2.9	3. 0- 3 9	4 0-	5. 0- 5. 9		_						- 16 0~ 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 30 - 4 99	26 3	47 99	136 402 42	240 920 345 16	146 946 564 73	146 418 324 31 10	94 308 94 10	225 266 136 73	559 684 219 94 5	470 214 188 52 10	376 345 240 110 10	125 89 37 26	2590 4696 2189 485 35 0 0
5 00 - GREATER TOTAL	31	146	580	1521	1729	929	506	700	1561	934	1081	277	0

### Table C35

## 1980 Through 1985 Monthly Joint Distribution of

 $H_{mo}$  versus  $T_{p}$  for Gage 645

			ρ	ERCENT	OCCUR		NTH JA		IGHT AN	D PERI	00		
HEIGHT (METERS)						PERI	OD (SEC	ONDS					TOTAL
	1 0- 2. 9					7.0-	8.0- 8.9	90-	10 0-	12 0-	14 0- 9 15	16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99	108	90 126	216 414 72	486 1099 396	234 1045 721 18	162 324 342 18	324 126 216	216 216 54 36	414 793 270 108	216 90 36	270 360 234 18	54 36	2790 4647 2341 198 18
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER TOTAL									0	0	o	0	0000
TOTAL	Ū	v				MO	NTH FE	8	GHT AN			v	
HEIGHT (METERS)					6.0-	7 0-	0D(SEC	9 0-	10 C-		14 C-	16 0-	TOTAL
	2. 9	3. 9	4 9	5. 9	6 9	7 9	8. 9	9 9	11 9	13	9 15	9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99	35	99 176	158 246 18	334 896 316	105 685 685 53	141 264 193 105	193 334 105 35	70 334 158 35	791 1090 369 35	158 281 369 105 18	105 404 246 246	10	2161 4745 2459 614 18 0
4 00 - 4 49 4 50 - 4 99 5 00 - GREATER TOTAL	o	•	0		o	0	0		o	0	o	0	0 0
			PE	RCENT	OCCUR		NTH MAF		CHT ANI	PERIO	D D		
HEIGHT (METERS)						PERIO	DD ( SEC	ONDS)					TOTAL
	1 0-	3 0- 3, 9	4 0- 4 4	5 0- 5 9	6 0- 6 9	7 0- 7 9	8.0- 8.9	9 0- 9 9	10 0- 11 9			16 0- LONGER	
0 00 ~ 0 49 0 50 ~ 0 99 1 00 ~ 1 49 1 50 ~ 1 99 2 00 ~ 2 49 2 50 ~ 2 99 3 00 ~ 3 49 3 50 ~ 3 99 4 00 ~ 4 49 4 50 ~ 4 99	78 16	109 327	234 452 62	312 997 265 16	171 779 421	78 405 202 16	218 280 140 16	187 249 109 47	405 701 249 93	218 327 249 140 16	342 639 389 31 16		2353 5172 2086 359 32 0 0 0
5 00 ~ GREATER TOTAL	0	0	o	0	0	0	0	0	<b>o</b> .	0	0	0	0

(Continued)

(Sheet 1 of 4)

## MONTH APR PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)						PERI	OD (SECO	ONDS)					TOTAL
	1 0-	3 0- 4 3. 9	0- 4. 4	5 0- 5. 9	6 0- 7	0- 7 9		9 0- 9 9		13 %	14 0- 7 15 9		
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER	35 17		209 453 17	314 854 139	679	383 348 105	592 383 87 17	366 279 139	557 1045 209 17	610 122 52	470 366 174 17	<b>52</b> 17	3988 4772 1183 51 0 0 0 0
TOTAL	0	0	0	o	0	Q	0	0	O	O	O	0	

## MONTH MAY PERCENT DCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)						PERI	OD(SEC	ONDS)					TOTAL
	1 0- 2.9		4. 0- 4. 9	5 0- 5 9		7 O- 7 9					14 C- 9 15 9		
0 00 ~ 0 49 0 50 ~ 0 99 1 00 ~ 1 49 1 50 ~ 1 99 2 00 ~ 2 49 3 50 ~ 2 99 3 00 ~ 3 49 3 50 ~ 3 99 4 00 ~ 4 49 4 50 ~ 4 99 5 00 ~ GREATER	30 15	167 197	242 667 15	530 1288 136	394 1000 136 30	409 485 45	470 485 61	500 364 76	606 515 76 15	227 136 45 15	333 152 45 15	<b>45</b> 30	3953 5334 635 75 0 0 0
TOTAL	0	0	0	0	0	0	0	0	C	O	O	0	

# MONTH JUN PERCENT OCCURRENCE(X100) OF HEIGHT AND PERIOD

HEIGHT (METERS)						PERIO	DOSEC	ONDS)					JATOT
	1 0-2 9		4 0- 4 4	5 0 <del>-</del> 5. 9	6 0- 6 9	7 0- 7 9	8 0- 8 9	9 0- 9 9		12 0- 13 9			
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99 5 00 - GREATER	49 32	210 129	420 565	937 985 91	630 565 48	598 420 16	549 501 32	792 468 16	545 455 145	355	9 7 1 9 32	1 <b>4</b> 5 4 8	5427 4197 370 0 0 0
TOTAL	0	0	0	0	0	0	0	0	0	o	0	0	

(Continued)

(Sheet 2 of 4)

			۴	PERCENT	DCCUF		X100)		IGHT AN	D PER	מסו		
HEIGHT (METERS)						PER	OD ( SE (	ONDS)					TOTAL
	1 0-2 9		4 0-			7 0-						16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99	47	63 126	284 442 16	662 789 189	568 647 63	442 379 32	994 979 47	1088	ବ୍ୟନ 174 3ଇ	505 158	3 <b>4</b> ~ 1c	126 95	6104 3520 379 0 0 0
5 00 - GREATER TOTAL	o	0	0	0	0	0	0	0	o	0	5	0	0
							NTH AU						
HETCHT/METERCY			۲	ERCENT	OCCUR				GHT AN	D PEPI	00		
HEIGHT (METERS)		~ ~					OD (SEC						TOTAL
	1 0- 2.9		4 0 <del>-</del> 4. 9	5. 0- 5. 9		-	8 0- 8.9					16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99	16	111 223	175 605	541 924 96	430 701 207	430 510 111 32	828 430 16	1019 303 32	780 350 64 16	4 <i>h</i> 2 49 32 16	334 96 32	32	5142 4206 590 64 0
3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99		•		•									0 0 0
5 00 - GREATER TOTAL	0	0	0	Ô	0	0	0	0	0	0	0	0	0
			PI	ERCENT	OCCUR		NTH SEF		GHT ANI	) PED 11	חר		
HEIGHT (METERS)							DD (SEC		•				TOTAL
	1. 0- 2. 9	3. 0- 3. 9	4. 0- 4. 9	5. 0- 5. 9	6. 0- 6. 9	7 O- 7 9	8. O- 8. 9	9 0- 9, 9		12 0-	14 0-	16.0- P LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49	17 34	17 134	67 471 67	118 706 370 17	118 756 437 50	252 622 218 17	151 336 151	319 538 168 17	857 655 218	353 370 50	286 588 168 50 34	118 34 34	2673 5244 1881 151 51
2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99			•		•	•				1,	J.		0
5 00 - GREATER TOTAL	· 0	0		0	0	0	0	o	0	0	o	0	0
	-	-	•	•	·	Ū	v	Ū	v	v	Ū	v	

(Continued)

(Sheet 3 of 4)

			۲۱	ERCENT	OCCUR		NTH OC		GHT AN	D PERI	OD		
HEIGHT (METERS)						PERI	OD (SEC	ONDS)					TOTAL
	1. 0 <del>-</del> 2. 9	3. 0- 3. 9	4. 0 <del>-</del> 4. 9	5 0- 5 9	6. 0- 6 9		8 0- 8 9			12 0-		16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 49 4 50 - 4 99	30	61	30 289 30	198 775 410 15	152 790 532 122	137 334 426 30 15	106 395 167 15	152 258 228 76	496 957 380 137	228 274 274 76 30	350 334 289 91 30	106 61 46 76	1975 4528 2782 638 75 0 0
5 00 - GREATER	o	٥	0	٥	0	0	O	0	O	0	0	0	ő
			PE	RCENT	OCCURR		ITH NOV (100) 0		HT AND	PERIO	Đ		
HEIGHT (METERS)						PERIO	D(SECO	NDS)					TOTAL
	1 0- 3	3 0	4 0- 4 9	5 0- 5 9	6.9	7 0- 7 9	8. 0- 8. 9	9 0- 9 9	10.0- 11.9			16 0- LONGER	
0.00 - 0.49 0.50 - 0.99 1.00 - 1.49 1.50 - 1.99 2.00 - 2.49 2.50 - 2.99	31 16	16 94	204 455	251 925 266 16	125 956 596 63	141 596 329 63	110 329 110 16	188 282 47 125	376 596 141 110 16	533 282 266 63	345 298 256 141	63 94 63	2383 4923 2084 597 16 0
3.00 - 3.49 3.50 - 3.99 4.00 - 4.49 4.50 - 4.99 5.00 - GREATER TOTAL					0				0	0	0	0	0 0 0
1012	Ť	·			-	но	NTH DE(		OHT ANI	D PERI	OD		
HEIGHT (METERS)						PERI	OD ( <b>SE</b> C (	ONDS)					TOTAL
	1.0- 2.9	3. 0 <del>-</del> 3. 9	4. 0- 4. 9	5. 0- 5. 9	6 0- 6. 9			9 0- 9 9	10 0- 11 9	12 0~		16 0- 9 LONGER	
0 00 - 0 49 0 50 - 0 99 1 00 - 1 49 1 50 - 1 99 2 00 - 2 49 2 50 - 2 99 3 00 - 3 49 3 50 - 3 99 4 00 - 4 99	16 	129	178 469 97	275 1068 356 16	162 1100 566 32	162 324 210 16	65 194	340 259 129 16	825 485 129 32	663 81 16 16	437 405 162 97	210	3462 4644 1665 209 16 0
5.00 - GREATER TOTAL	0	0	O	0	0	0	0	0	o	0	o	o	0

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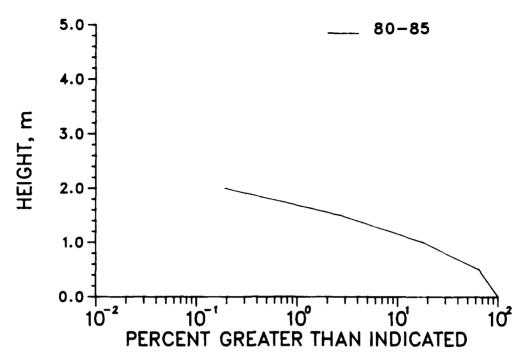


Figure C49. 1980 through 1985 annual cumulative distribution of  ${\rm H}_{\rm mo}$  for Gage 645

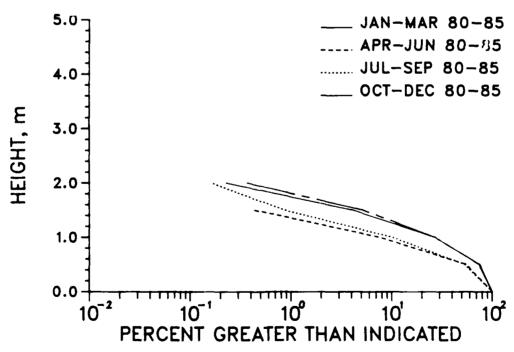
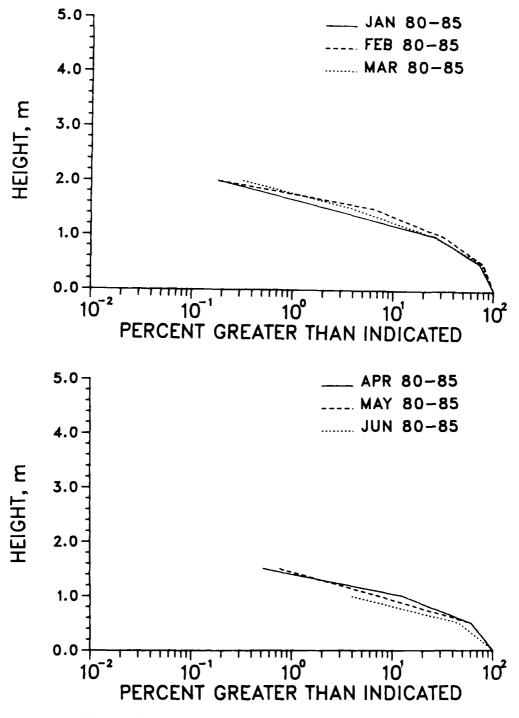


Figure C50. 1980 through 1985 seasonal cumulative distribution of  $H_{mo}$  for Gage 645



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Figure C51. 1980 through 1985 monthly cumulative distribution of  $H_{mo}$  for Gage 645 (Continued)

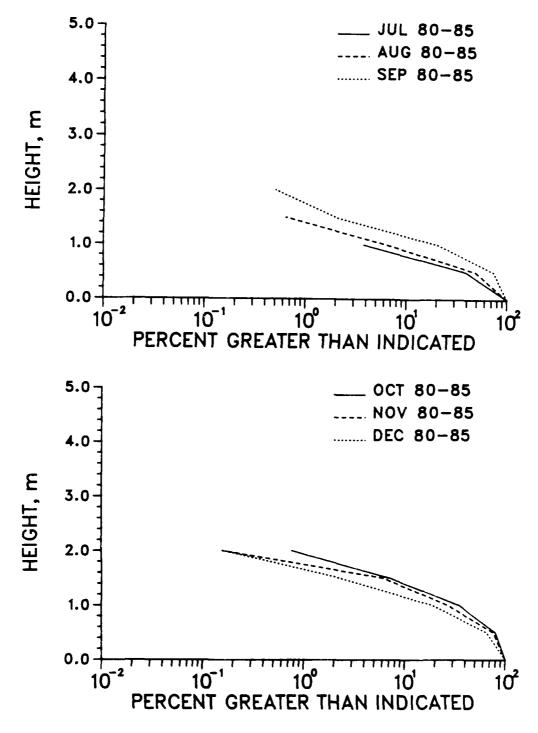


Figure C51. (Concluded)

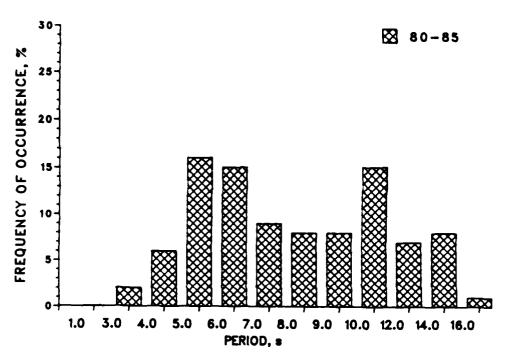


Figure C52. 1980 through 1985 annual distribution of T  $$\tt T$$  for Gage 645

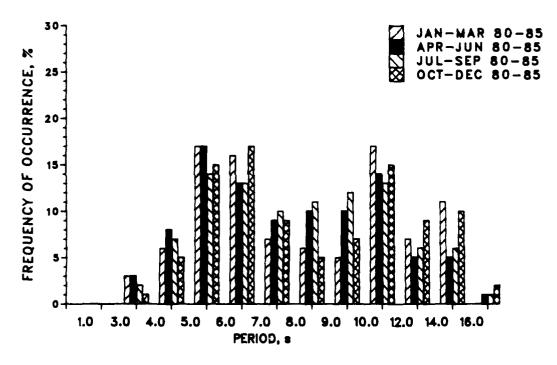


Figure C53. 1980 through 1985 seasonal distribution of  $T_p$  for Gage 645

Table C36 1980 Through 1985 Persistence of H for Gage 645

BUSSIN SSSESSES CORCUSS. SUBSIDIOS DEPUBLICA SUBSIDIOS SUBSIDIOS CORCUSSOS CORCUSSOS PROPERTIES CONSIGNAS

					•		,		í	ĺ	,							
Height							Con	Consecutive Day(s) or Longer	ve Da	y(s) o	r Lon	ger						
	-	2	3	7	2	9	7	∞	<u>6</u>		12	Ωl	14	15	19	<u>-1</u>	<b>∞</b>	194
0.5	70	40 33 29	29	20	19	15		13		•		9						
	39	25	15	6				3										
1.5	11	2		7														

CIONARES CONTRACTOR DE LA COSTA DE LA CONTRACTOR DE CONTRA

ÉSTANO DESERVIDO COLLICIO DESERVIDO ESPERIDO ESPERIDA PERSONA PERSONA DE SERVERES

CONTRACT TRACTOR BASEDON COCCOSA SECURIOS CONTRACTOR